San Antonio Taxi and Horse Drawn Carriages Study

By
Tennessee Transportation & Logistics Foundation

TTLF

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INTRODUCTION

The purpose of this report is to relate the findings and recommendations of a study contracted by the City of San Antonio for the examination of taxi and horse drawn carriage services within the City of San Antonio. The several project tasks of this study were:

Phase I: Determine System Requirements and Current Situation

- Meet with officials and staff to clarify project, request further data, determine study requirements, and create lists of people and organizations to interview
- Establish a taxicab and horse drawn carriage study advisors/contact personnel consisting of city licensing officials, city manager's office, and police officials
- Conduct comprehensive customer/hotel surveys/interviews with all stakeholders as deemed necessary
- Interview taxi dispatch company owners and taxi drivers
- Obtain dispatch data, both raw and electronic, from existing taxi operators to perform service level analysis on existing taxi system at both peak and non-peak demand periods
- Meet with airport landside officials to discus current taxi operations and collect available data on current taxi operations.

Phase II: System Conceptual Design

- Conduct in-house seminars with San Antonio Taxicab Study contact personnel reviewing current conditions and comparing San Antonio with other cities of similar size and situation
- Provide several alternatives for discussion and consensus, building an appropriate "best fit" taxi regulatory model for San Antonio to use in the future

Phase III: Implementation Plan and Detailed Design

- Prepare detailed recommendations and implementation plan of the chosen alternative for final approval

- Prepare final report and power point for public presentation to Taxi Advisory Board.
- Be available for public hearings and presentations as necessary

This report will first discuss the rationale and necessity of regulating taxi and horse drawn carriage operations within the City of San Antonio; the current San Antonio taxi markets and company structures for the provision of taxi services; the current environment for taxicab service, and finally, recommendations for the future. Combined within this report will also be similar observations, data analysis, and interviews regarding current regulations for horse drawn carriages within San Antonio and recommendations for the future regulation of horse drawn carriages and related attractions.

Why Regulate Taxis or Horse Drawn Carriages?

The necessity to regulate taxi and horse drawn carriage services within the City of San Antonio is twofold. First, there is the legal responsibility to provide a comprehensive licensing procedure which ensures the safety of the riding public who utilize taxis and carriages, but also, as city officials feel so inclined to further economically regulate the provision of these public taxi and carriage services in the public's interest. The public needs to be assured that these services are safe, that they are not overcharged, and that the conditions within their respective industries promote a healthy working atmosphere.

One could argue that no economic regulation of taxis or carriages in San Antonio is needed. In fact, some already have taken this position, arguing that open entry into the taxi industry, or most markets, including the horse drawn carriage industry, should be permitted once a person's background is checked and the vehicle or horse/carriage configuration they intend to use is deemed safe through a physical inspection. Indeed, limiting the number of taxi or horse drawn carriage licenses is an example of a government intervening into the natural marketplace of supply and demand.

This author would agree that such governmental intervention should be only utilized when it serves the greater public good. Therefore, one has to ask is whether a limitation of supply of taxis or horse drawn carriages in San Antonio is serving the greater public good, and if so, how? This question was examined taking into account the current San Antonio taxi and horse drawn carriage industry structure, permit ownership, and probable future of both the taxi

and horse drawn carriage services if supply is not limited.

The deregulation or open entry argument for community taxicab and carriage services is that citizens also need other generally available goods and services such as grocery stores, restaurants, car rental firms, etc., and are not economically regulated, in the belief that competitive forces will bring about quality operations and the best consumer prices if government intervention is kept to a minimum – primarily the safety of the good or service. Why then is there the need to regulate San Antonio, Texas taxi and carriage services? Such well-intended economic theories predict that, without entry regulation for these services, there will be many more taxis and carriages, fares will go down, drivers will earn more income, and service will improve.[1]

As shown in Appendix B, however, these economic theories, with respect to taxis, are not realized in the real world, as has been shown time and time again in city after city. A deregulated, or open-entry, approach to taxi services within a North American community of any size leads to unreliable, expensive, and spotty taxi service at best. Some taxi availability is improved for evening bar services, hotel or airport stands, but taxi dispatch or call service suffers greatly under deregulation/open entry. Study after study has concluded that in all cases taxi fares go up – not down; service gets worse, not better, and veteran drivers either leave the industry or work much longer hours to make a living. In a city like San Antonio, where the vast majority of taxi service depends upon dispatched calls, open entry of the supply of taxis would be an economic disaster for the taxi industry and result in significantly poorer service. Like any good transportation service, taxi services must be appropriately planned for, coordinated, and continually upgraded if they are to attract and support the needs of the community.

[1] Note: The rationale for the regulation of taxis San Antonio does not necessarily include the need to support an ever-increasing taxi permit value. Taxi permits, or taxi medallions as they are commonly referred to, which have become a tradable commodity are just that, a commodity that relies on taxi regulations to both provide continued value of this commodity. If taxi regulations change, the value of this commodity can change dramatically. In a situation where open entry is adopted as the future course of taxi regulation, permit values can plummet by 50 to 75% overnight. Thus, a driver who may have spent years holding and driving his permit, would find the appreciated value of his permit vastly reduced. Is this fair or right? A taxi permit, if deemed to be the tradable personal property of the holder, has both the opportunity to go down in value as much as it has the opportunity to increase in value. Unfortunately, most taxi drivers who do own their own permit will sell the permit once it reaches any level of value – preferring to have the cash instead of holding the permit for a longer period of time in hopes of further appreciation. Over time, these permits become items which individuals who do not own or drive a taxi buy and sell as a commodity, or they may hold a permit and lease it to another person whom provides his/her own vehicle and driver. These individuals add no value to the permit other than paying a small yearly renewal fee and leasing it to another. On the other hand, full service taxi companies which add vehicles, marketing, insurance, access to voucher and other prearranged business, etc. and then lease the permit to a driver or a owner-driver definitely do add significant value to the permit – providing a job and a market to the driver.

The same general arguments can be made for horse drawn carriages in San Antonio – that open entry would cause fares to increase, service issues such as bending the regulatory rules, and fighting over customers would occur and the streets would become unreasonably crowded due to the slow pace of travel of the carriages. In fact, the move from 15 carriage permits to the current 25 has already done much of this. Carriage rides were $25 per couple but now operators feel that they must raise fares to $40 per couple in order for their drivers to make a decent living.

As previously stated, the simple, but yet most effective, answer to the open entry argument lies in the rationale that it is **in the public's interest** to regulate taxicabs and horse drawn carriages in San Antonio. There is the social commitment a community has to both its citizens and its visitors that taxicabs are a vital public transportation service and that they will be available, safe, and economical to use. Rates are balanced to protect the user not only from onerous or arbitrary fares but, at the same time, to still yield the taxi industry sufficient funds to compensate drivers fairly; taxi companies, if efficient, to continue in business; and to enable them to make a modest profit.

A final important reason **for** regulating taxi services, especially in the San Antonio area, is reliance on taxi services by both residents and visitors. Therefore, it is both the public's need and its preference to have a modern, positive image for its taxi operations. A taxicab service should reflect the community's desire for clean, efficient, and responsible public transportation service, one which meets the needs of all, including the disabled user. However, for many trips, and for those who are disabled or without access to private automobiles and/or a bus route, a privately provided taxi is the only form of public transportation available. Proper regulation of efficient taxi is one way the community can ensure that its citizens have reasonable and reliable access to these privately provided public transportation services.

In the case of horse drawn carriages, one can make the argument that they have become part of the San Antonio Alamo "experience" and a part of the landscape which visitors and residents enjoy. As a special attraction, they add a great deal to the community. However, for safety reasons, animal rights reasons, and fairness to the operators, they also need to be regulated as well as licensed.

The issue of taxicabs and their future regulation will be addressed first in this report with a similar analysis to follow with regard to horse drawn carriages. After careful consideration it

was determined through the data analysis of this report that while additional taxi services may be needed in the call segment of the taxi industry, no additional taxis would be needed to serve the airport walk-up demand and downtown stand markets. In fact, there are too many taxis servicing these market segments. Also, the walk-up horse drawn carriage industry is adequately served by the current number of permits available. There is real concern that additional carriages will unnecessarily oversupply this market causing fares to rise further and create excessive congestion on downtown city streets. However, there may be some capacity to experiment with prearranged carriage services, and this is discussed within this report.

San Antonio Taxi Markets

Every community has distinct taxicab market generators. Examples of these trip generators would be the presence of a busy airport or residents who use taxis on a regular basis for commuting to work, or local residents who depend upon taxi services for emergency and occasional trips not easily made on public transit. The presence of a large elderly, retirement, and/or a tourist population who use taxi service for medical, social, and entertainment (dining out) activities also affects overall taxi market demand. Thus, each community is somewhat unique in its various market demands for taxi services.

Within San Antonio, however, taxi services are extremely important to the large tourism industry and local users for airport trips, shopping, medical appointments, eating out, and generally getting around when an automobile is not the preferred option, inconvenient, or not available. Taxi services are important and frequently used options for visitors, tourists, and residents alike.

San Antonio taxis have several demand points which generate a significant percentage of their daily demand. The two major sources of taxi demand or markets would be the airport/hotel stand market and the "call" trips provided by the taxi company's dispatch. Public taxi and hotel stands are places, like the airport walk-up taxi service where individual drivers can obtain customers without a dispatch service. However, the vast majority of taxi trips in San Antonio are provided through taxi dispatch calls and/or major contracts for taxi services such as military bases. Thus, a taxi company dispatch is essential in the scheme of taxi services for San Antonio since it is the taxi dispatch that receives a customer's request or standing order and arranges all of these trips either through their call/dispatch center or contracts with schools, individual

accounts, the transit system or other organizations.

As developed from taxi dispatch data and personal interviews with San Antonio taxi drivers, San Antonio taxi trips are mostly intermediate length trips of several miles, with most fares between $16 and $17 for the call market, $25 for the airport walk-up market, and less than $10 for the downtown stand market unless an airport trip is taken. However, as will be shown through later data analysis, the number of airport trips per day per vehicle, while resulting in greater revenue per trip, pales in comparison to the total revenue per vehicle per day in the call/arranged market segment which has significantly more trips but a lower average fare.

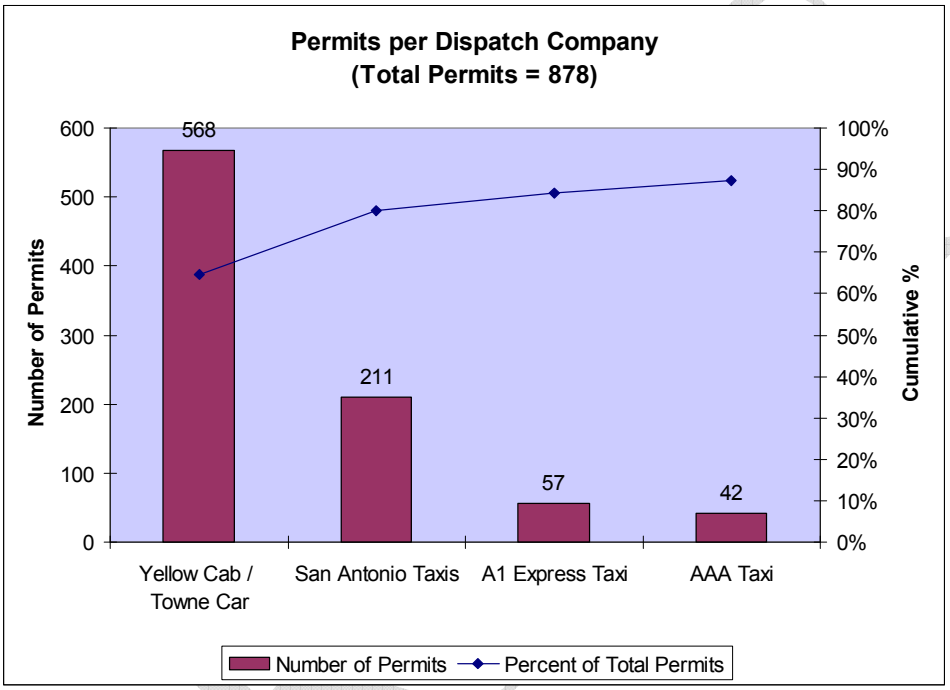
An additional observation regarding the San Antonio taxi markets relates to the different regions of the community served by taxi industry. The stand/airport market consists of the downtown area and the corridor to and from the airport serving mainly visitors or tourists to the San Antonio area. The call/arranged market segment is spread throughout the greater San Antonio region. Often there is considerable deadhead for a taxi company which has a small number of vehicles to cover such a large geographical area. If however, the vast majority of these trips are provided by a taxi company that, due to its size and number of vehicles, already has taxis in the area, both deadhead mileage and the cost are minimized.

General San Antonio Taxi Industry Statistics

The following statistics describe the general San Antonio taxicab industry from data available through the City's existing licensing of taxicabs and drivers.

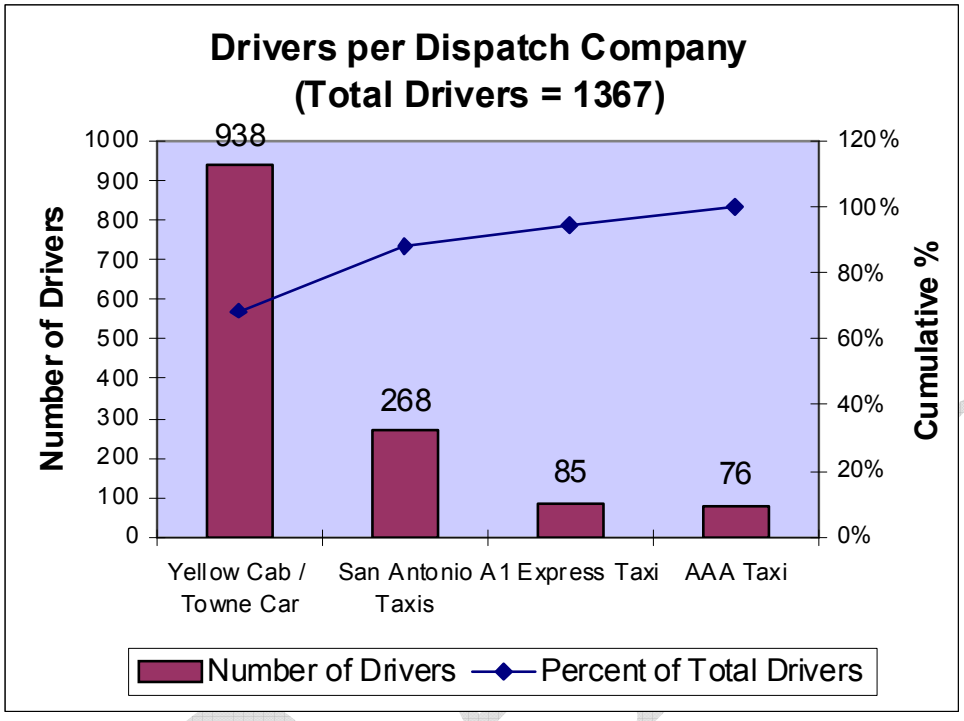
A breakdown by specific taxi dispatch companies is depicted below:

Four Competing Dispatch Companies



The taxi industry of San Antonio is one of the area's largest industries involving over 1,300 individuals as shown below:

A 1300+ Person Industry



Framework for Analysis

Unfortunately, there is considerable confusion today as to the definition of a taxi company. The general public sees a car with a dome light on top, the name of some company on the side of the vehicle and the letters "taxi", and assumes that it has a meter, is regulated somehow, and that there is a company in back of the service they are calling, hailing, or stepping into at the airport. Taxi companies today can be, and often are, very different – even within the same community. San Antonio, like other large cities in North America, has a large number of taxi companies. There are twenty five (25) taxi "companies" in San Antonio. However, this is somewhat misleading when one considers that one company, Yellow Cab of San Antonio, manages 568 of the 878 taxi permits within the City of San Antonio, or 65% of the total supply of taxis. Alternatively, twenty (20) San Antonio taxi firms are companies with 16 or fewer taxis.

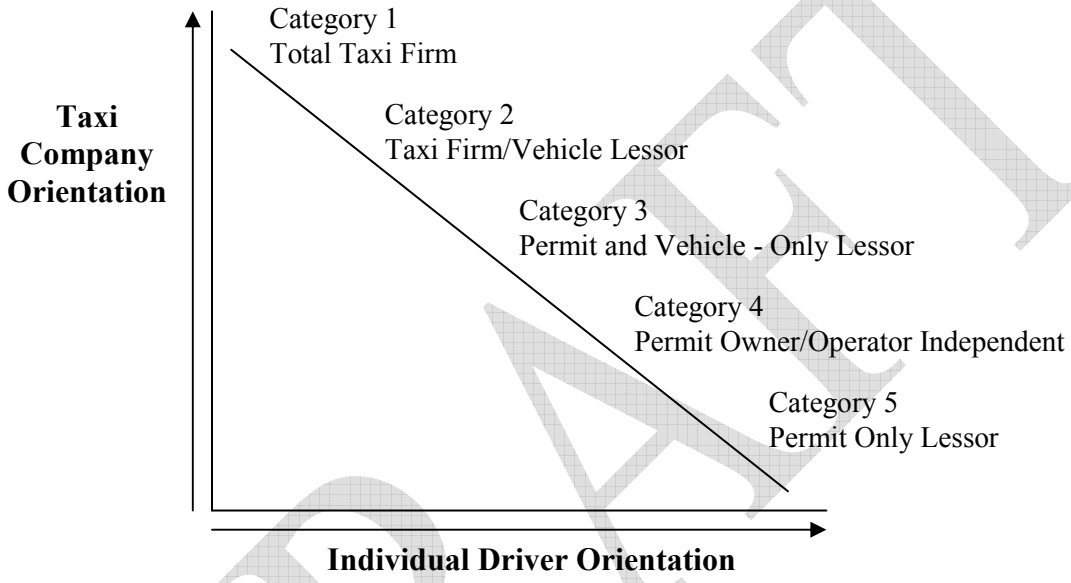
A thorough knowledge of the San Antonio taxi service, first, requires a detailed explanation of the types of taxicab firms found in North American communities in general. The North American taxi industry can be perceived as operating on a continuum ranging from a

comprehensive taxi firm to single independent taxi driver(s) acting as a taxi firm. At one end of this continuum, there is an orientation toward the taxi company as the provider of service and at the other end is the reliance on the independent owner-operator taxi driver as the provider of service. (Figure 1 below)

A detailed explanation of these taxi company categories can be found in Appendix A.

Figure 1

Continuum of City Taxicab Firms



As shown, this continuum of taxicab firms ranges from the total taxi firm which adds significant economic value to the city's taxicab permit, down to a simple permit holder who drives their own taxi or leases their permit a to the highest bidder who may provide a vehicle that they or others drive. At the upper end of this continuum, the total taxi firm is adding significant value to the community permit using their own employees, commissioned, or leased drivers which they hold themselves out to manage as a system whenever a driver is on duty. These firms typically take a long term view of their marketplace – using resources to develop additional markets so more taxis can be added. They attempt to serve their entire geographic market through modern dispatching technologies such as GPS tracking and computerized dispatching the closest cab.

As we move toward the concept of the independent driver who owns his/her own vehicle and/or license (medallion) or drives for one who does, just the opposite view may be taken. The

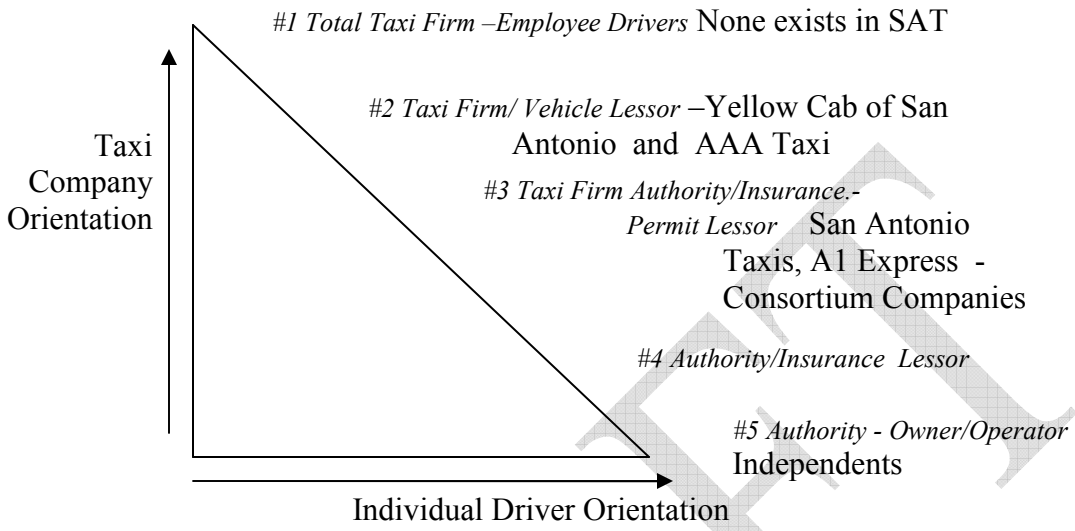
orientation is typically short run – that day to make the lease cost of the vehicle first and then to contribute to their income. Drivers typically work public stands and the airport if it is open forgoing the cost of belonging to a dispatch system or feeling the cost of dispatch outweighs the value of the calls they receive.

If they do belong to a dispatch system, they will often make the economic decision not to service the short trip which requires them to dead head away from the stand they are on. Or, they know the address is one who typically makes a short grocery trip and thus, when considering the cost of operating their taxi just to get to the pick up, the economic decision is made to just "skip" this call for service. When this occurs such as in fragmented or deregulated taxi systems, there may be no full service taxi company to manage taxi service levels and the community inherits a much greater role in the day –to-day management of these taxi drivers on a day-to-day basis.

Unfortunately, most city taxi licensing or regulatory systems are set up as if we still had either Category 1 or Category 2 full service taxi firms. As such, cities assume very little management role of the taxi drivers at first. Unfortunately, many taxi firms completely change their methods of operation or never fully develop them in the first place. First, by changing the employee-employer driver relationship to that of an independent contractor driver – thereby eliminating many government mandated employee related costs; secondly, they find it less costly to not own and maintain their own fleets; preferring to let others, including drivers assume the responsibility for these costs – purchasing whatever vehicle will pass inspection as a taxicab.

Finally, many taxi companies will abandon their marketing and dispatch functions or never develop them – preferring to let their drivers work downtown stands and the airport if permitted to do so. Over time, cities and airports, through their responsibility for issuance of driver's permits, vehicle inspections, daily citations for violations of city/airport taxi ordinances, etc., become the day-to-day management for much of the community's taxi operations. This framework is an appropriate template upon which San Antonio's taxi firms can be placed as shown below.

Continuum of San Antonio Taxicab Dispatch Firms



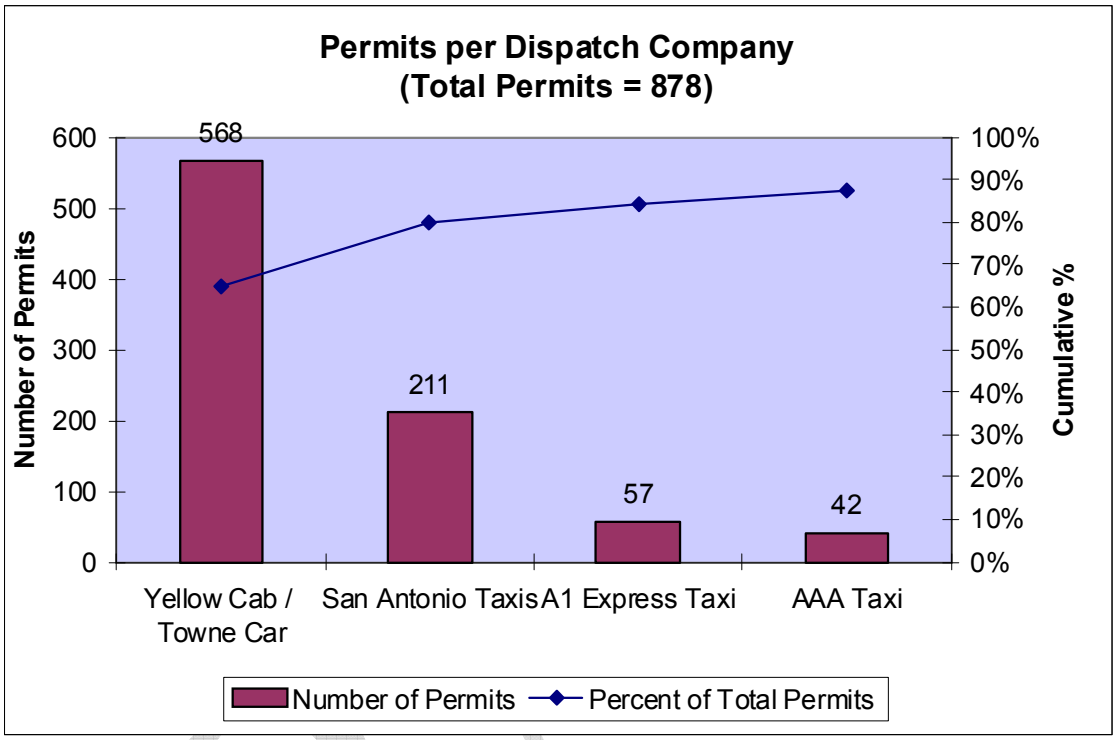
On the surface, the four taxi dispatch companies of the City of San Antonio would be placed into Categories 2 and 3. However, some of the individual taxi companies which form the two taxi dispatch consortiums would fall into Categories 4 and 5 with respect to what services they do or do not provide their drivers. The four taxi dispatch operations each have a separate business facility, provide at least some GPS based radio dispatch services. As will be shown, two of these dispatch companies go to great lengths to assist their drivers in the marketing of their service through service contracts, prearranged trips, significant dispatched trips per vehicle, and overall promotion of their services. Two other cooperative dispatch operations are much less utilized and would appear to have not developed significant business for their participating taxi companies.

In summary, the City of San Antonio is continuing to experience problems associated with fragmentation of their taxi industry. While there is one large well financed, and technology rich firm, Yellow Cab of San Antonio, which manages 568 taxi permits with two levels of metered service, regular Yellow and Towncar services, there is also a medium sized taxi firm, AAA Taxi, with 42 permits which is attempting to also be a full service taxi dispatch firm – developing significant taxi dispatch business and prearranged taxi business for its drivers.

This leaves, 22 other smaller taxi firms which have been required to ban together under one of two taxi dispatch operations. The first, A1 Express Taxi has four participating taxi

companies with a total of 57 permits, and a second, larger taxi dispatch association, San Antonio Taxis with eighteen taxi companies and 211 permits.

Four Competing Dispatch Companies



Problems from such taxi company fragmentation are service devolution which arises when drivers realize they are receiving no real benefits from the fees they are paying associations, taxi firms, or individual permit owners for the right to operate a taxicab – often their own. Lower insurance costs may be deemed as the only value of associating with a cab company or dispatch association if you work primarily the airport and public cab stands. Even so, independent insurance can be obtained by many drivers, so why not press the city for an independent (medallion type) taxicab permit; such is usually the pressure that a city council faces from irate taxi drivers who feel they need their own permit in order to make a decent living.

Often a small number of taxi drivers who feel they can operate though their cell phones will petition city council for enough permits to form their own taxi company or be given permits as other small taxi companies leave the business, as has been the case in San Antonio. When this occurs and the city allocates individual taxi permits to individual driver groups, fragmentation of the taxi industry occurs and call/dispatch service deteriorates significantly as callers may have 25

different companies in the Yellow Pages but have no idea which one will be able to provide service – especially if they live in a less dense neighborhood.

It should be noted that among San Antonio taxi firms there has been a consolidation from over 40 taxi firms in 1983 to the 25 that exist today.

Comparisons of Regulations and Taxicab Statistics with Other Cities

As noted in the "Why Regulate" section contained within **Appendix B** is a brief review of the experiences of other cities in their attempts to regulate taxicabs with appropriate citing for readers who may want to probe deeper into these collective experiences with taxicab deregulation and/or open entry to the taxicab market. (Note that this appendix has been used in other reports to inform readers of the academic literature surrounding the operation of urban taxicabs.)

Following is a comparative listing of North American cities which have populations from 1 to 1.5 million people. As shown by the chart below, tourist oriented cities with major convention centers such as San Diego, California and Orlando, Florida have similar or even a slightly higher ratio of taxicabs to population. Other metropolitan areas with similar populations, such as Memphis and Milwaukee, which do not have major convention centers, and tourist areas, have considerably fewer cabs per 1,000 populations than San Antonio.

Also as shown, San Antonio taxi rates are considerably below the average for flag drop, additional miles, and waiting times. The most obvious deficit is in the initial flag drop which is $2.00 during the day with an extra $1 for evenings. The average for this grouping of cities is $3.01. Thus, there is merit to bring this up to the average of $3.00 day and $4.00 night through two raises of 50 cents each, six months apart. The flag drop will be felt primarily by the short trip users – usually tourists. However, with these short trips representing about $10.00, the effect would be a 10% increase in taxi trip costs. For the average San Antonio taxi trip, this would be $1.00 more than the $16.50 charge today, or a 6% increase over the course of the next year. The cost of additional miles is currently $2.10 with the average for this group of comparable cities being $2.26, so there is little difference at the current time and the recommendation would be to keep the current rate as it exists. With this change there would be no need for the $5.00 minimum fare in the downtown area and it should be dropped in favor of only charging the

metered rate.

An additional issue with the current taxi fare structure utilized by the City of San Antonio is the gasoline cost surcharge. Currently the taxi fare can be increased by five (5) cents per twenty (20) or thirty (30) increases. At the current levels of fuel costs, this additional cost per mile is generally sufficient to offset the increase in costs. However, at the upper ranges of this linear model, the incremental cost per mile $1.00 would be allotted when the cost of gasoline reached $7.00 per gallon. As shown the current lease driver may spend $30 to $40 per day for gasoline which at $2.50 per gallon would purchase sixteen gallons. If gasoline were $7.00 per gallon, the daily fuel costs would be $112.00 for the same 16 gallons.

If the driver were making 10 trips per day with an average of 10 miles per trip the additional miles would be 100 miles - an increase in the taxi fare of $100 but a cost to the driver of only $112 thereby creating an overcharge for the passenger and an increase in revenue for the taxi driver. Clearly the linear model currently in the City Code 33 needs to be revised downward if gasoline reaches $4.50 or more per gallon. This would raise taxi fares 50 cents per mile representing a hypothetical increase of $50.00 revenue for the taxi driver and only a $2.00 increase in the cost of gasoline per gallon or $32.00 – a difference of $18 per day increase in revenue per day for the taxi driver. This would be even more for the hybrid vehicles now being used as taxicabs and one could expect many more hybrids as gasoline approaches $4.00 per gallon.

It should be noted that the methodology of comparing taxicab rates and charges with a grouping of similar sized cities is not an especially accurate way to grant fare hikes to the taxi industry. Fuel prices, insurance costs, and other operating costs significantly affect the cost of providing taxicab services and in the future, a full cost analysis of the taxi companies true operating costs should be taken into consideration before adjusting the taxicab rates for San Antonio. A common methodology utilized in regulated industries is to set a desired profit level after taxes for the operating companies, e.g. 15%, and derive the fares based on the expected revenues and expenses. Unfortunately, such accounting data was not made available for the current study.

Population 1M - 1.5M: Number Licensed 20 - 1,825

City, State	Pop. /000/	Lic.	Drop Charge $	Charge mile	Add'l. Charge $	Add'l. Mile	Cost of First Mile	Cost of Second Mile	Traffic Delay $/Min.	Waiting Time $/Hr.	Date of Increase	Legend
Bayside (Queens), NY	1100	500	6.00	1st zone	2nd 10.00	3rd 15.00				0	Apr-06	
Birmingham, AL	1000	182	3.00	1/4	0.25	1/8	4.50	2.00	0.33	0.33	Apr-08	SUR 670
Boston, MA	1000	1825	2.60	1/7	0.4	1/7	5.00	2.80	0.4	0.4	Sep-08	100
Broward County, FL	1250	625	2.50	1/6	0.4	1/6	4.50	2.40	0.4	0.4	Apr-08	275
Dayton, OH	1065	90	2.00	1/2	0.2	1/10	3.00	2.00		0	Apr-02	230
Fairfax County, VA	1000	576	3.25	1/5	0.4	1/5	4.85	2.00	0.35	0.35	Oct-08	SUR 935
Fort Lauderdale, FL	1350	672	2.50	1/6	0.4	1/6	4.50	2.40	0.3	0.3	Sep-05	5
Memphis, TN	1200	300	2.00	1/9	0.2	1/9	3.60	1.80	0.33	0.33	Apr-07	795
Milwaukee, WI	1000	325	2.75	1/8	0.25	1/8	4.50	2.00	0.25	0.25	May-06	380
Montgomery County, WD	1000	720	4.00	1/4	0.5	1/4	5.50	2.00	0.47	0.47	Feb-09	875
Orlando, FL	1434	1000	2.20	1/4	0.55	1/4	3.85	2.20	0.55	0.55	Feb-08	
Pomona, CA	1000	140	2.20	1/10	0.22	1/10	4.18	2.20	0.4	0.4	Apr-05	
Rock Island (Quad Cities), IL	1000	20	6.00	1 mile	2.5	1 mile	6.00	2.50		0	May-07	1015
Sacramento, CA	1200	450	5.00	1 mile	0.2	1/11	5.00	2.20	0.41	0.41	Feb-02	195
Salt Lake City, UT	1000	268	2.25	1/11	0.2	1/11	4.25	2.20	0.37	0.37	Jul-08	1010
St. Louis, MO	1500	1200	2.50	1/10	0.2	1/10	4.30	2.00		0	Jun-08	SUR 930
San Antonio, TX	1300	820	2.00	1/7	0.3	1/7	3.80	2.10	0.35	0.35	Jun-08	SUR 680
San Diego, CA	1000	1000	2.40	1/13	0.2	1/13	4.80	2.60	0.36	0.36	Apr-07	65
San Jose, CA	1000	475	3.50	1/10	0.25	1/12	5.70	3.00	0.4	0.4	Oct-08	190
Seattle, WA	1000	643	2.50	1/10	0.25	1/10	4.75	2.50	0.5	0.5	Oct-08	UR 135
Tampa, FL	1205	613	2.00	1/5	0.45	1/5	3.80	2.25	0.3	0.3	Jun-08	SUR95
22 cities Avg	1124	592.6	3.01	Avg	0.42	Avg	4.52	2.26	0.38	0.31		

Overall Rate Increase Affect

The overall affect of a taxi rate increase hits low income and transportation disabled members of a community the hardest**.** Often these individuals live on a fixed income and significant increases in taxi fares mean a reduction in their overall mobility and hence enjoyment of frequent travel. Thus, significant increases in taxi fares such as unreasonable gasoline surcharges should not be permitted and other increases held to a minimum if at all possible. The City of San Antonio has structured its taxi rates to require tourists and evening users more for their taxi services which an attempt to keep daytime fares as low as possible.

This general philosophy of keeping local fares as low as possible should be encouraged through the appropriate use of taxi permits. Increasing the number of taxi permits does not decrease the taxi fares as some economists have predicted. As shown in Appendix B, just the opposite happens – fares go up, not down and service in the suburbs deteriorates as too many

taxis are permitted into the taxi network.

Taxi service is a derived demand. That is, no one takes a taxi ride because of its price, but rather because they need to go from point A to point B. Taxi fares in San Antonio can be held to a fair level for both users and taxi drivers, by limiting the number of taxi permits to those that provide the maximum number of rides per day and only increasing that number when it can be shown that demand is reaching the capacity of the existing permits a taxi holding company may have.

Current Rates Charged

Currently the City of San Antonio permits taxi companies to charge up to 20% less than the current meter rates as long as these rates are applied for through the GTU and on file. However, the largest taxi permit holding company, Yellow Cab of San Antonio indicated they had no such rates on file and it appear that others also have not applied to utilize this rate making flexibility.

Finally, as shown by the chart above, San Antonio's taxi rate is lower than most large tourist oriented cities in the comparison chart. The methodology for keeping taxi fares low is within the existing ordinance and the recommendations of this report. By requiring the filing of taxi permit lease charges by taxi holder companies and consortiums as currently done and the trips per day per driver, as recommended in this report, GTU can easily determine the range of incomes for San Antonio drivers and keep rates which permit reasonably stable driver employment but fares to a minimum.

Taxicab/Horse Drawn Carriage History in San Antonio, Texas

San Antonio, Texas is a southern tourist city of 1,300,000+ individuals, a mature, community with a steady hotel and convention business even during this time of economic downturn. While affected by the general economy, San Antonio Airport, for example, has experienced only a 6% decline in deplaning passengers over the past two years, which is considered good for a major tourist oriented city.

The City of San Antonio has conducted several outside comprehensive studies of its taxi and horse drawn carriage industries, most recently in 1993. The major recommendations of this report were considered but not implemented due to resistance from the taxi and horse drawn

carriage industry. Recommendations at that time were for a single taxi concession to be implemented under the stand management concept at the airport and that horse drawn carriage operations be considered city concession attractions. These city attractions were to be grandfathered to existing carriers for a period of five years and competitively bid thereafter. City Council did not accept these recommendations, preferring to license existing operators and set no time limits on the expiration of these licenses except that they be renewed yearly.

Taxicab conditions in 1993 were observed to be substantially below industry standards with respect to vehicle age, dispatch technology deployed, and overall service levels to the community. The City had experienced severe fragmentation of its taxi industry and had forty (40) taxi companies. City Council at that time did accept recommendations to require a minimum number of vehicles to constitute a taxi company but decreased the number from the original minimal number suggested as twenty five (25) to that of only seven (7) vehicles to constitute a taxi holder permit. City Council also did not increase the taxicab insurance levels as was recommended in the report.

As one might expect, some things have changed in the San Antonio industry in the seventeen intervening years. The taxi industry has adopted considerably newer vehicles, employed modern taxi dispatch methods, and generally "cleaned up their appearance". A single, well financed taxi operator has been able to assemble sixty-five percent of the supply of taxicabs under one management, bringing the latest taxi dispatch technologies, and marketing to the community. This company alone has twenty-five (25) fully accessible taxis serving the transportation disadvantaged.

In addition, the number of taxi companies has been reduced to 25 firms and all taxi companies have been forced to either have or to affiliate with a firm that does provide taxi dispatch. The clear intent of these moves has been to require taxi companies and their drivers to comply with calls for taxi service through their affiliated dispatch systems. As will be shown by survey data, the general image of taxi service in San Antonio has been vastly improved.

Changes in the horse and carriage industry in San Antonio have resulted in an expansion of the number of carriage companies from two companies with 15 carriages to five companies with twenty-five (25) carriages. These operators, while having been brought under the regulatory framework of the GTU, still are free to set their own rates (daily and to negotiate spot

rates with customers) and to solicit customers as they approach their carriages. These changes have brought about increased competition, higher rates for customers and constant bickering among the operators that others are not "following the rules".

City officials are currently facing the difficult decisions of whether or not to add taxi and horse drawn carriage permits into the San Antonio marketplace, and if so, how many should be added and how should it be done. There have been a significant number of additional taxi permits issued during the past 17 years, from 468 in 1993 to 878, or a 187% increase. The number of horse drawn carriage permits has also grown from 15 to 25 – a 60% increase. Additionally, there are currently two applications to add ten (10) additional carriages – one a stage coach operation outside of the Menger Hotel and another for prearranged traditional carriage rides.

Finally, there are the related questions of how to add additional taxi and/or carriage permits if necessary, who should receive these permits, what fares for both taxi and carriages should be, what standards of performance the City should expect of its taxi and carriage operations, and what form of regulations the City should be involved in. Unfortunately, City officials have little guidance as to what is in the best interest of the public they serve and hence, the need for a comprehensive taxicab and carriage service and regulatory study.

Interviews with Taxi Firm Owners

During August of 2010, interviews were conducted with the two San Antonio full service taxi firms and two taxi consortiums which had physical places of business and central dispatching operations. Following is a brief description of the major taxicab firm facilities and their owners' concerns.

While all the San Antonio taxi dispatch companies were generally cooperative in this study, only AAA Taxi was unable to provide usable raw data from their operations. From the raw data provide by the other three dispatch operations one can gain a much greater understanding of how San Antonio taxis are operating – their practical capacity and general industry health. Following are examples of what this data provided.

Yellow Cabs of San Antonio is the largest of San Antonio's taxi companies, operating both traditional sedan and van type taxis as well as a fleet of premium towncars as taxicabs. As noted previously, Yellow would be considered a Category 2 type taxi company, having

ownership of all its permits, owning the majority of vehicles and, as shown in these pictures, providing dispatching, credit card processing, an extensive office facility which includes full time telephone receptionist(s) and taxi dispatcher, a repair facility, company offices, and marketing of taxi contracts for services.

Yellow Cab of San Antonio

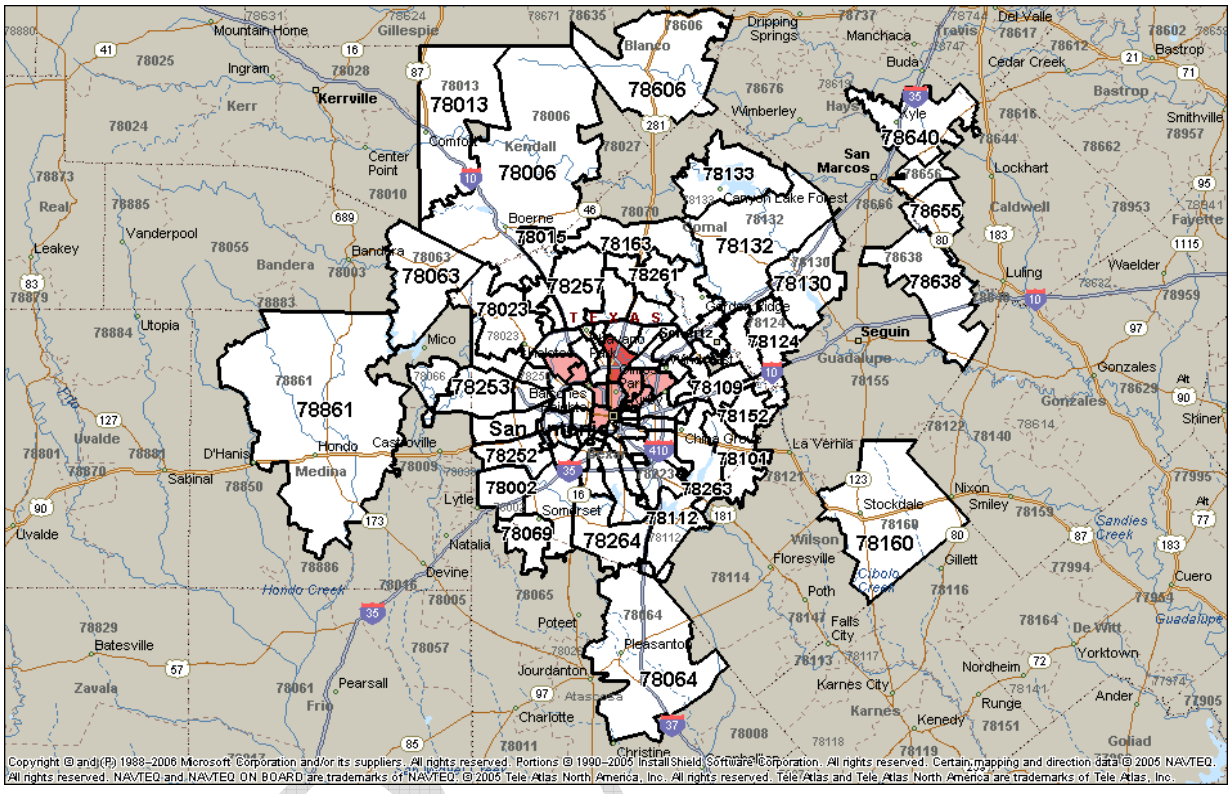
Pictured above is the modern office building and facilities of Yellow Cab of San Antonio as well as their new General Manager. Shown also are the general taxi call takers' stations and an example of a call taker handling calls not processed by the computer.

Pictured above is a screen shot of what a Yellow dispatcher sees. Yellow's dispatch technology shows the dispatcher the locations of all taxicabs on their system through the use of GPS and intergraphics by Digital Dispatch Systems – one of the largest taxi dispatch technologies in North America. These pictures also depict the drivers waiting room, Yellow's classroom facility for training and retraining of drivers, and their parts/service desk for drivers who need repairs or parts for their vehicles.

Finally, as pictured above, San Antonio Yellow Cab has extensive repair, painting and maintenance facilities at the same location. Such extensive facilities permits Yellow Cab of San Antonio to prepare and process a large number of vehicles at the same time providing for the flexibility of having a larger number of taxi vehicles on the streets when they are needed and holding in reserve vehicles which are not needed every day.

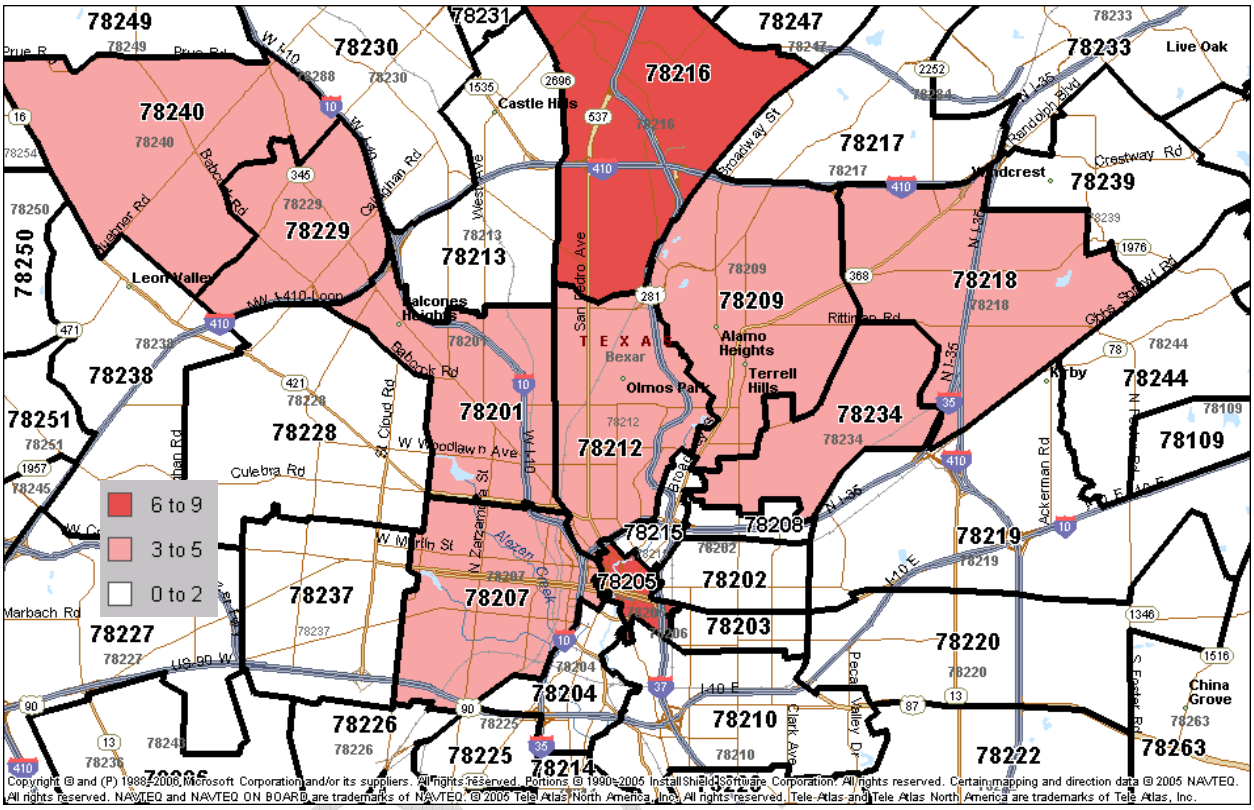
The modern dispatch system of Yellow Cab permits considerable analysis of how their taxis are serving the community. Shown following is a graphic presentation of this taxi company's demand for taxi service throughout the region.

Percent of Total Demand
Yellow Cab of San Antonio per Zip Code



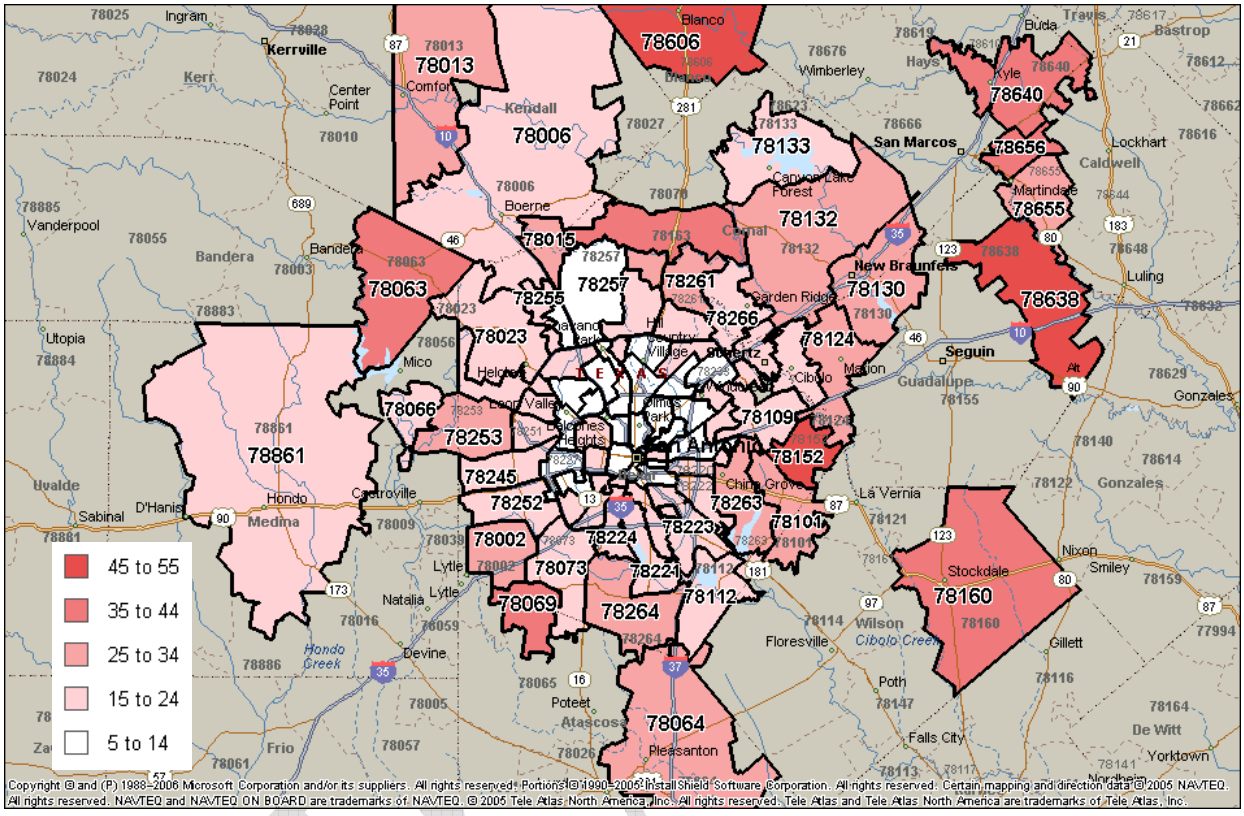
As shown on the following close-up graphic, there is a significant demand for Yellow Cab service, as one might expect, in the center of the City, but also shown is the area demand for Yellow throughout the City – especially the equally high demand for Yellow Cab service in North San Antonio.

Percent of Total Yellow Cab of San Antonio Demand Close-up



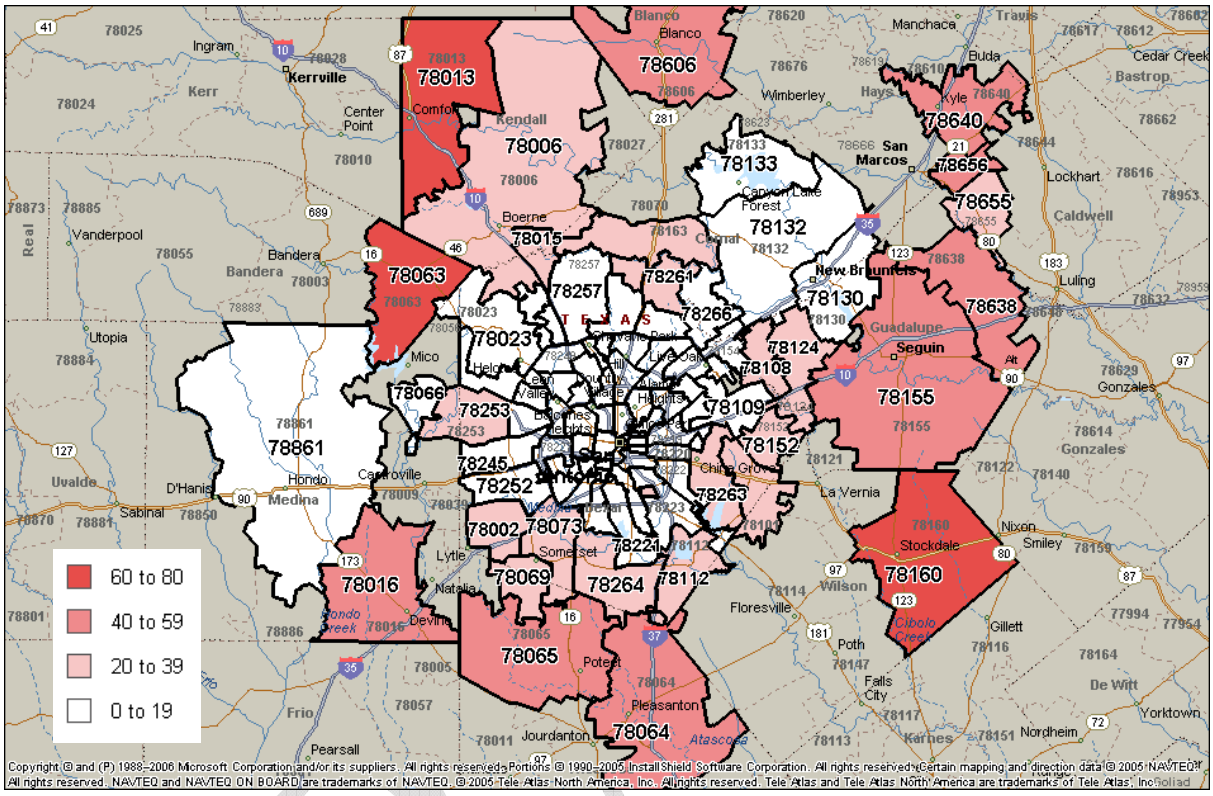
Shown on the next page is the average customer wait times from the moment they call Yellow dispatch until their cab arrives. As shown the downtown and several areas receive their taxis within 5 to 15 minutes or 10 minutes on the average – an extremely high service level for a large city taxi operation. It should also be pointed out that there is a considerable part of the area north of the downtown area which receives the same prompt taxi service from Yellow Cab. Finally, the vast majority of other areas receive a taxi within 15 to 24 minutes or 20 minutes on the average from the time they call. There are far out areas that require 30 minutes or longer but given the low density of these areas, this would still be considered good taxi service.

Average Wait Time Yellow Cab of San Antonio in Minutes

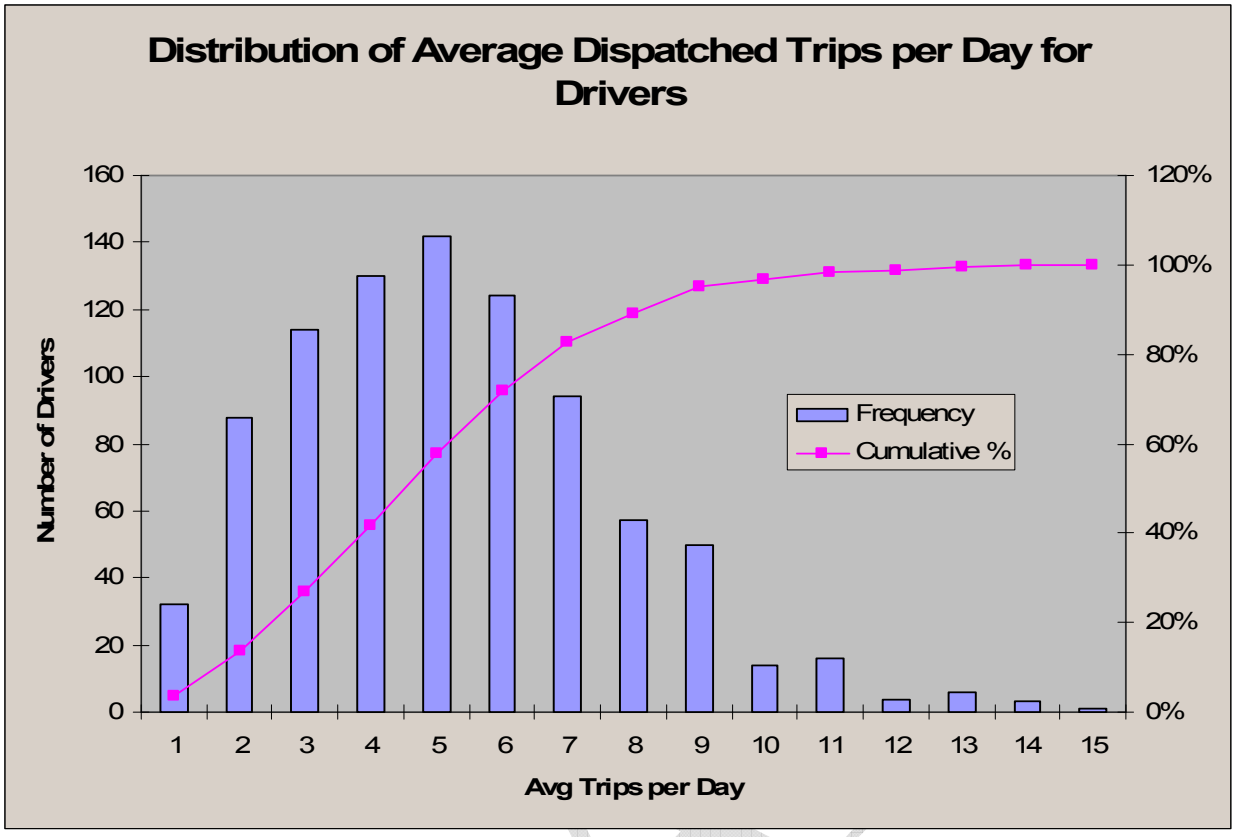


The taxi trip times, or the amount of time the customer is in the taxi, can also be determined from Yellow Cab dispatch data. Show below is the average trip duration by zip code for the San Antonio region. As can be expected, trips in the city core are relatively short, averaging 10 minutes or less, but as can be shown by this data, Yellow Cab provides these same short trips for other groupings of residents in the region. Throughout the City Center, to the East and the Northwest of downtown, these relatively short, local trips, be seen through this data.

Trip Duration Yellow Cab of San Antonio in Minutes

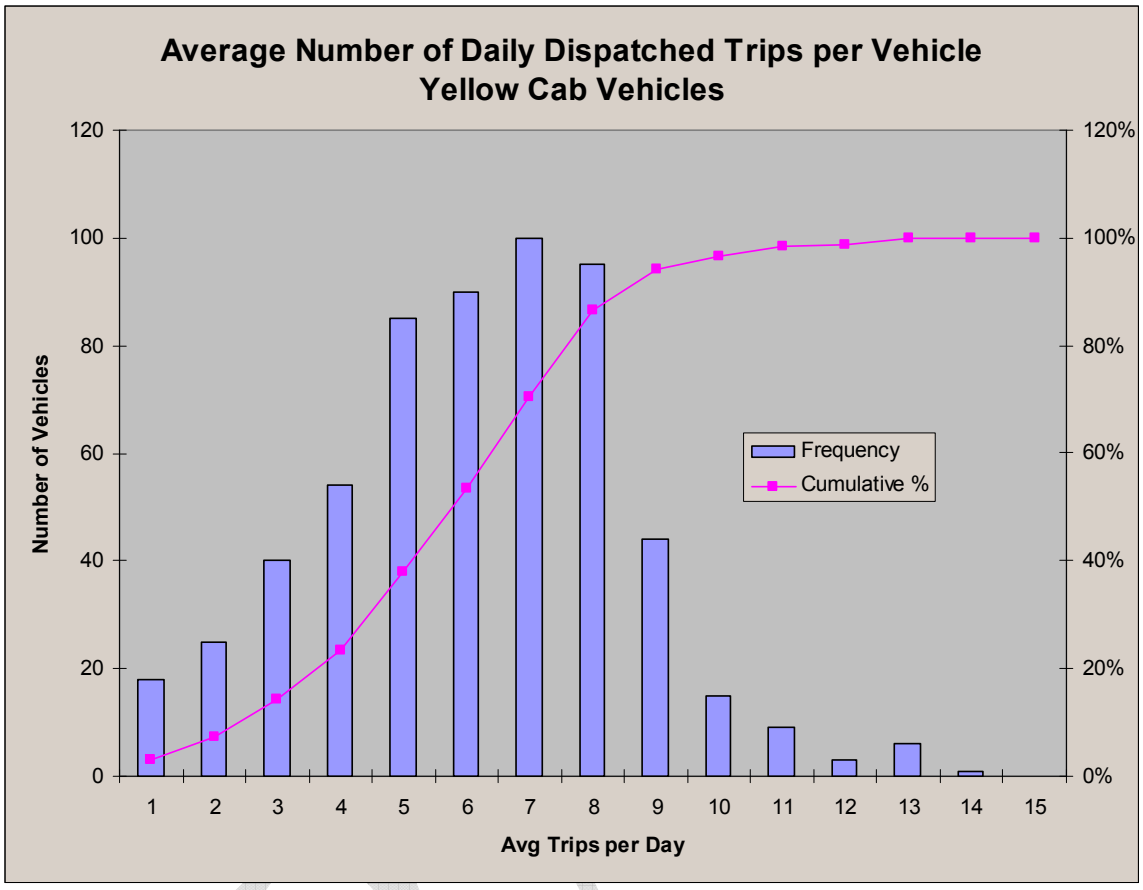


In any research study of taxicabs, of primary interest is how many dispatch trips the taxi company is generating each day for their taxicabs. After all, in addition to a clean, modern well-equipped and insured taxicab, the taxi driver is paying a lease rate primarily for the market opportunity driving a Yellow Cab brings. Through leasing a Yellow Cab or, if an owner-operator taxi driver through affiliation with Yellow, the San Antonio taxi driver is hoping for a good number of dispatched calls, prearranged or pre-booked corporate or social service agency work, plus the general image of Yellow Cab to generate work for him or her. Of course the driver expects to work the hotel stands and other areas when the time is right as well as to develop personals, but the reason for leasing from or affiliating with Yellow Cab or any cab company for that matter, is to achieve a certain number of fares per day. With the average fare from a Yellow Cab trip being between $15 and $17 plus tips, the driver is hoping for between 15 and 20 total trips to make the day successful for him. Graphed below is the average number of dispatched trips per driver by Yellow's dispatch system.

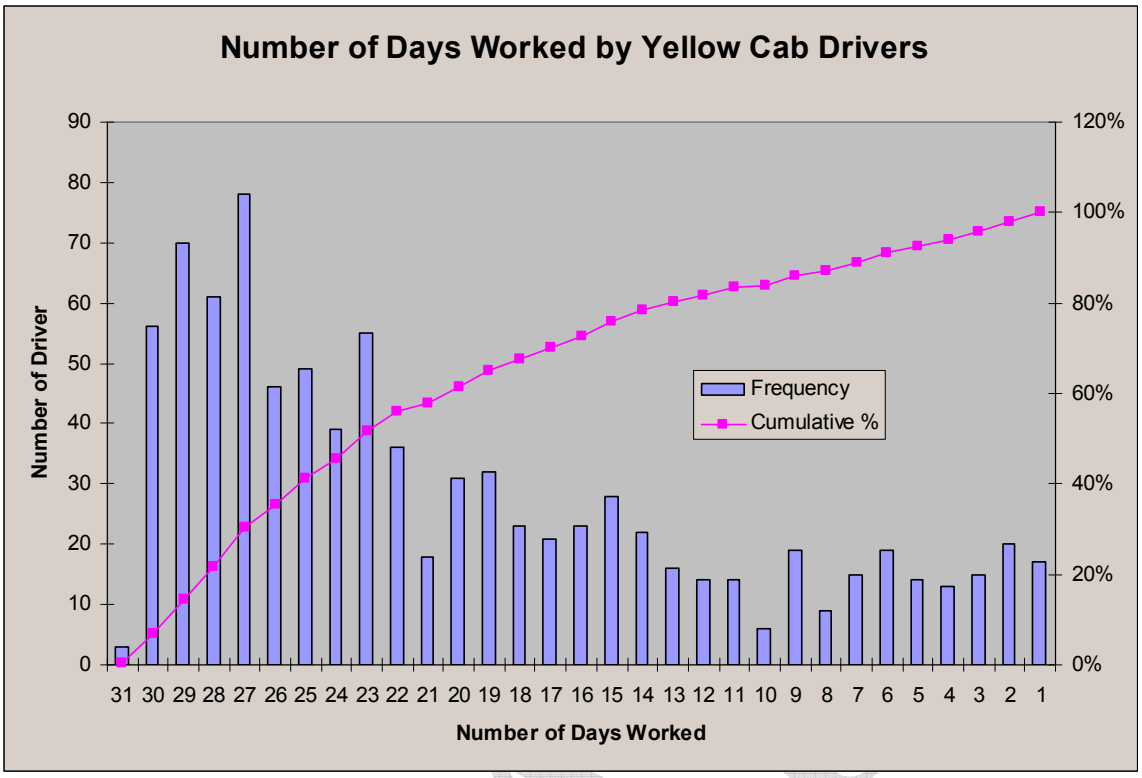


While 5 to 6 averaged dispatch trips per day may not seem a lot, readers must consider that this is an average. On some days the same driver will receive 9 trips or 10 trips, but alternatively, he may also receive only 2 or 3 trips on some unusually slow days. It should also be pointed out that this is only dispatched trips and does not include prearrangements, corporate vouchers, and any contract work for which a vehicle is not dispatched, but rather has a fixed time or assignment to provide the service.

Since a number of Yellow Cabs taxis are double shifted, the average number of dispatched trips per vehicle is higher as shown below. Such a practice of double shifting of vehicles, whether being done by the taxi company or the individual owner-driver, helps to drive more revenue per vehicle through a smaller number of vehicles, thereby permitting greater revenues per car and driver due to lower vehicle costs for insurance, permit fees, inspections, maintenance and depreciation per mile.



Following is a chart of the number of days Yellow Cab drivers work per month. It is common to believe that taxi drivers drive every day of the month or that they drive most days of the month. As shown, there are a few drivers who may work every day they can, but the vast majority of drivers do not work every day. Most work a five or six day week and there are numerous drivers who work only weekends or only a few days per week. Thus, when someone wants to know the annual income of a taxi driver, this is a very difficult statistic to generate since there is a range in the number of days an individual may work in the taxi industry. In fact, there are large numbers of immigrant taxi drivers who work only 6 or 9 months per year, but work every day they can so they can spend the rest of the year in their home countries with their families.

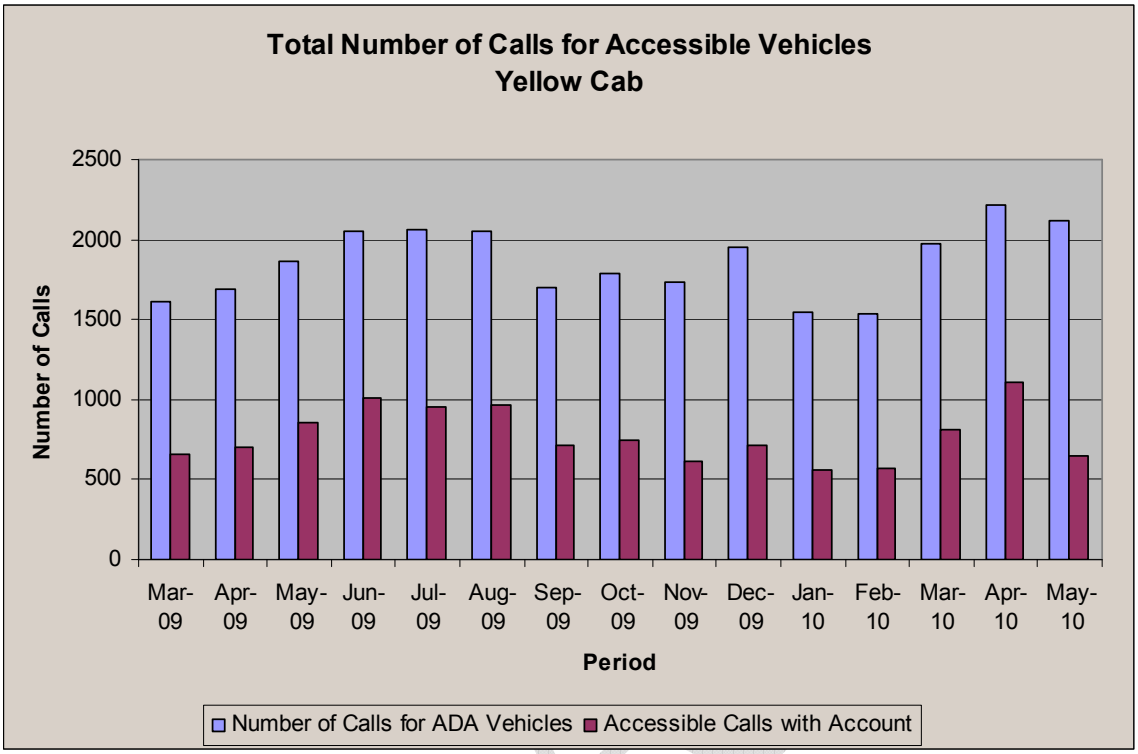


Of particular interest to the GTU, is the availability and utilization of wheelchair accessible taxis operated by Yellow Cab. As previously mentioned, Yellow Cab has 25 wheelchair accessible taxis within their fleet, or slightly fewer than 5% of their fleet. Following is a year's worth of data regarding their use of accessible taxicabs. Their range of demand is from a low of 1500 calls per the winter months of January and February to the current highs 2250 vehicles in April of this year.

An average of 1875 calls per month would mean an average daily demand for approximately 61.47 trips. Divided by the current fleet of 25 wheelchair accessible taxis, this would suggest an average of about 2.5 trips per day per wheelchair accessible taxi. This is a good average for a taxi company to strive for since it means that the vehicle is being used for wheelchair accessible trips about 20% of its time (2.5 trips out of daily 12 – 14 trips). Thus, one would conclude that the current demand for accessible wheelchair taxi service is being easily met by the supply and that no additional capacity is needed at this time. Therefore, the present program of issuing at least one accessible taxi permit to each taxicompany should be terminated.

It is interesting also to note that fewer than half of these trips were calls from agencies that had accounts with Yellow Cab. Many were transportation disadvantaged individuals calling Yellow for general use of these vehicles and new callers that had not previously set up accounts,

thereby indicating the possibility of future growth of this market, but not at any rate which would outstrip capacity for the foreseeable future.



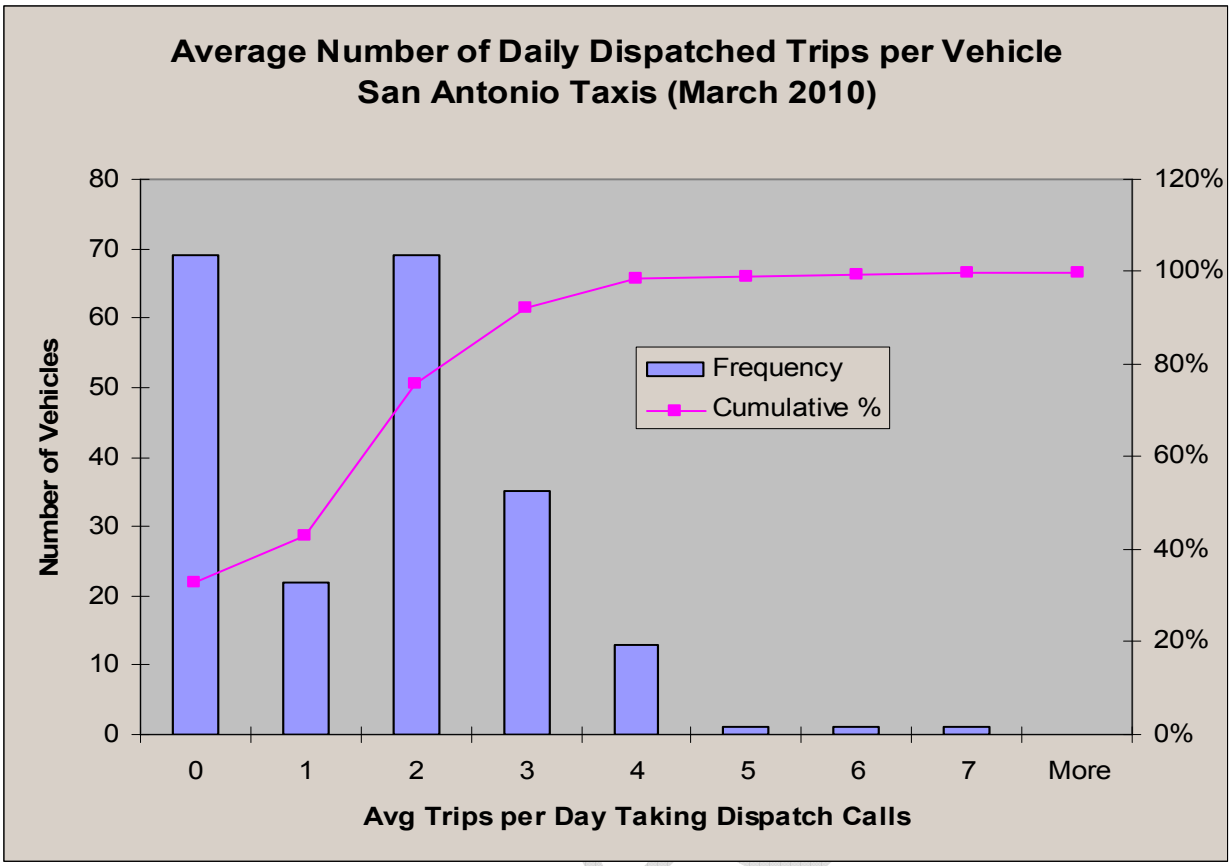
The managers of Yellow Cabs of San Antonio are concerned about their future ability of permits to grow the taxi industry beyond the geographic limits of the areas currently served and the ability to add vehicles into their existing service area as they generate more demand for their services.

Surprisingly, Yellow Cab management also indicated no real interest in providing an exclusive walk- up taxi service to the San Antonio Airport unless they were requested to do so though a competitive bidding process. Under the current conditions at SAT they indicated the vast majority of their drivers prefer to not work the airport due to the long waiting times between trips and the inability to earn a sufficient return for their efforts while being tied up waiting at the airport. Unless conditions were to change at the airport, they feel their drivers would continue to serve other areas of the community.

San Antonio Taxis

Pictured here are the entrance to, the personnel of San Antonio Taxis, and their dispatch area. The older of the two San Antonio taxi consortiums, San Antonio Taxis, has a basic but modern GPS based taxi dispatch system that it uses to dispatch its affiliated 211 taxis. However, as shown below, some 70 taxis do not accept dispatch calls, as shown by receiving "0" dispatched trips per day. In addition, as shown, the number of dispatched trips per day per driver is considerably less than Yellow Cab's, achieving only an average of one and a half trips per day for those that accept dispatch calls.

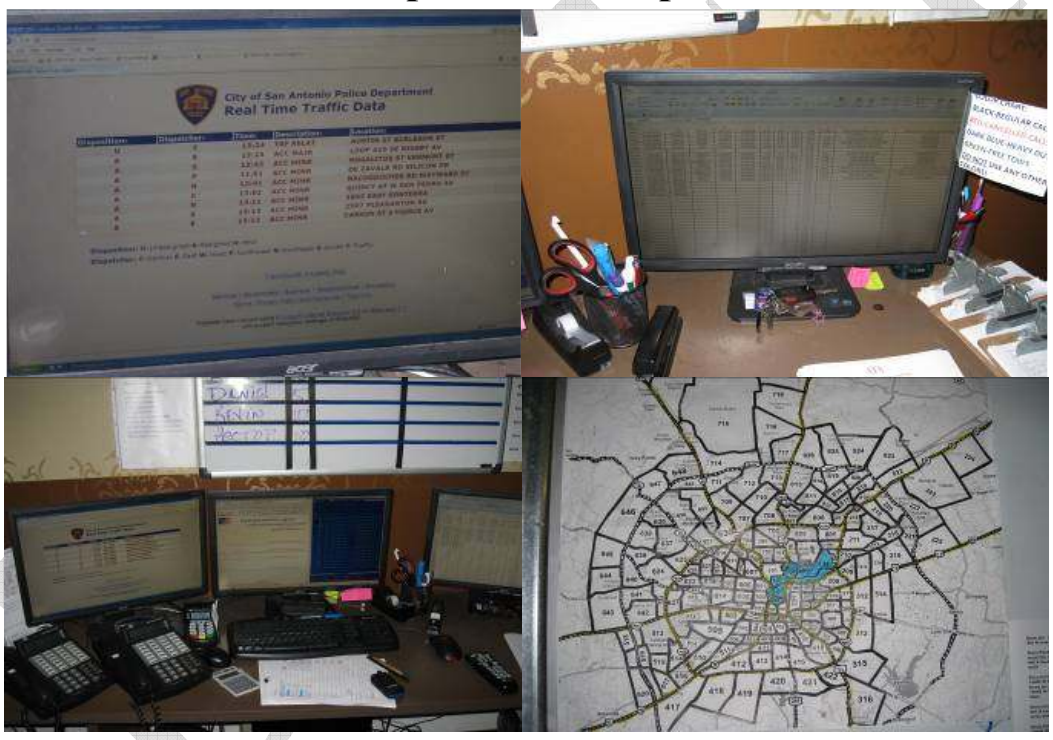
The management at San Antonio Taxis is concerned that many of its drivers do not accept dispatch calls and that some have left their consortium to join another because they want a lower consortium dispatch fee. It was indicated that some drivers feel that since they desire not to take dispatch calls anyway, there is no need to pay any more for the City's requirement to belong to a consortium than necessary.


Average Number of Daily Dispatched Trips per Vehicle
San Antonio Taxis (March 2010)
Number of Vehicles
80
70
60
50
40
30
20
10
0
120%
100%
80%
60%
40%
20%
0%
Frequency
Cumulative %
0
1
2
3
4
5
6
7
More
Avg Trips per Day Taking Dispatch Calls

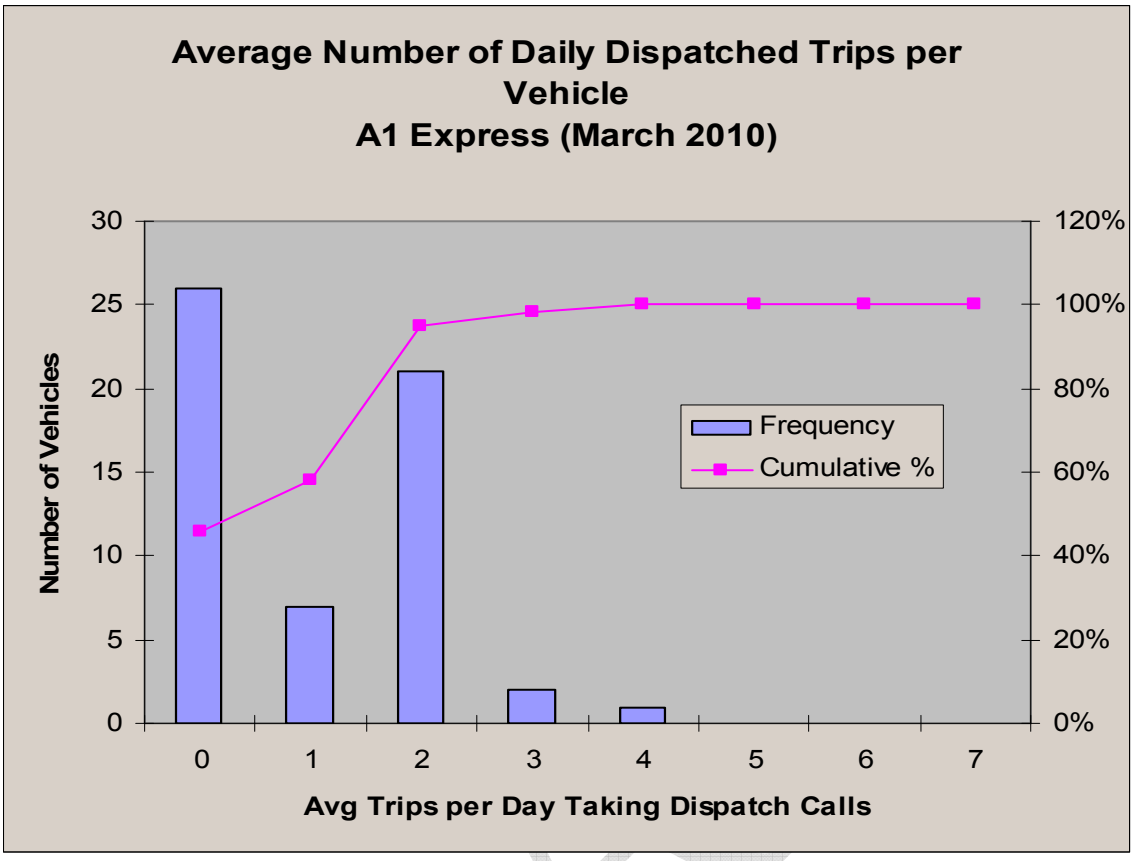
AAA Taxi

AAA Taxi, appears to be attempting to be a full service taxi company and has installed modern taxi dispatch technologies in all its cars. Through this system it is capable of providing excellent services through GPS computerized dispatching, automatic record keeping and reporting as well as advanced customer notice and immediate credit card processing with customer receipt. AAA Taxi management indicates a desire to grow their business through greater dispatch volume from marketing and more prearranged corporate voucher, school, and social service work. Unfortunately, AAA Taxi management was unable to provide usable data for this study in a timely manner.

A1 Express Taxi Dispatch



A1 Taxi Express is the smaller of the two San Antonio taxi consortiums. It has established some ongoing corporate and dispatch operations. However, as shown below twenty-five (25) of its drivers do not accept dispatch calls, and for those who do accept calls; the average number of dispatches per day is less than two (2) calls per vehicle per day.


Average Number of Daily Dispatched Trips per Vehicle
A1 Express (March 2010)
Number of Vehicles
30
25
20
15
10
5
0
120%
100%
80%
60%
40%
20%
0%
Frequency
Cumulative %
0
1
2
3
4
5
6
7
Avg Trips per Day Taking Dispatch Calls

Airport Taxi Driver Interviews

As shown by the photos, several time periods were set aside to talk with taxi drivers within San Antonio. There were three separate opportunities for drivers to speak with the study consultants and provide their views. The first were several small group sessions set up by the SAT Landside officials which took place in their conference room on July 29th. The second was the open air meeting pictured above, which was held August 11th in the airport taxi holding lot of Terminal Two. The final opportunity for taxi company owners and drivers to talk with the study team was on August 12th. This general meeting was held in two sessions at the Barbara Jordan Conference Center.

In general, the airport taxi drivers had the following concerns:

- Drivers fear the airport will go to a single concessionaire system with Yellow Cab being selected as the single operator.
    - Due to a previous report issues by this researcher that recommended a single operator concession to clean up the image of airport taxis, the fear that this is an action that would be re-recommended was very much on their minds.
- Drivers complained about long wait times at airport.

    - Drivers admitted that no one was holding a gun to their heads but that they preferred to work the airport which was much less wear and tear on their vehicles and a better taxi customer. The felt that they should be compensated for the time they spend being available for the arriving airline passenger and preferred a higher minimum departure fare from the airport.
- Drivers complained that airport restroom facilities in taxi holding lots are not properly attended and refreshed as necessary.
    - Several drivers indicated that airport staff did not periodically replace bathroom tissues when they were needed and that some of the facilities were allowed to become dirty between regular cleaning periods.
- Drivers complained that airport unfairly favors Airport Express Shuttle services by location and signage.
    - Several drivers offered testimony and pictures that the Airport Express Shuttle was taking more passengers than they should on occasion and that they had an unfair advertising advantage within the airport with more signs being visible.
- Drivers complain that they are treated unfairly by airport personnel.
    - Several drivers indicated they had had altercations with airport curb personnel about how long to wait at the curb, picking up passengers where they were not supposed to, and not assisting passengers with their baggage. Drivers felt they did not have a proper way to address their grievances concerning how they were being treated by airport personnel.

Airport Staff Interviews and Taxi Driver Facilities

Airport staff was interviewed as to the conditions of airport taxi services and any issues they wanted to discuss. Their primary concerns were:

- Excessive number of drivers create use pressures on facilities.
    - Airport staff indicated that there were far too many taxis at the airport than were actually needed – that the long waits by the drivers often led to short tempers – especially when a short trip from the airport was requested.
- Single taxi concessionaire would provide better service at less cost to the airport

    - Having seen what other airports have been able to achieve with a single taxi concessionaire for walk-up taxi services in the way of improved service, newer vehicles, more wheelchair accessible vehicles, alternative fueled vehicles, and improved attitude, airport personnel felt this should at least be an alternative to consider.
- Airport receives constant complaints about the lack of toilet paper and poor driver facilities
    - Airport personnel indicated that the amount of toilet paper utilized by the taxi drivers was far more than could be expected – that they could not keep the facilities stocked some days even with constant attention.
- Airport staff indicated that most user complaints were about minimum fare from airport by passengers wishing to stay at nearby hotels or short trip refusals
    - While not a frequent problem, local hotel managers were beginning to complain that their guests were surprised to be required to pay $13.50 for a relatively short trip, and that some drivers were charging this amount to the airport as well as from the airport.
- Airport staff indicated that they were somewhat tired of hearing the taxi drivers constantly complain about unfair competition from shared ride shuttle operations at the airport. Several times the drivers were informed that if they wanted to place more signs at the airport, the airport would sell them advertising space just as they would for any other ground transportation company.

Airport Facilities

As pictured below, the current facilities for taxicab drives are found outside of Terminal One and Terminal Two. The more comprehensive facilities for Terminal Two however will be eliminated as the last phase of the airport's comprehensive remodeling program is completed. Below are the current facilities for Terminals One (above) and Terminal Two (below).

SAT Airport Taxi Facilities

Unfortunately, the conditions for taxi drivers are considerably worse at the holding facility for Terminal One. There is little shade in the hot San Antonio summers other than an overpass and a couple of small screen tents. In addition, the restroom facilities, unlike those at Terminal Two which are a permanent structure, consist of a mobile construction crew facility on loan to the airport. When all taxis are required to utilize Terminal One, there will be a serious problem with proper facilities and the ability of these facilities to handle the pressure of so many drivers.

Airport Taxi Facilities

As shown by these photos, SAT currently has comparative signage and staging areas making the cost and availability of taxi service readily available and more convenient than most North American airports of similar size. Taxis are provided premium space on the arrivals curb immediately outside the baggage area doors at Terminal One and a similar boarding area outside Terminal Two. It is difficult to imagine any more convenient placement for taxi services.

Airport Data Analysis

Contained within Appendix C are a series of SAT taxi utilization statistics broken down by competing taxi dispatch companies. The airport maintains a large data base of each trip made by a walk up taxi driver as they approach the airport curb. This data is collected at the time each driver purchases a $1.00 access fee through the use of their prepaid credit card which is debited at this time. Thus, data is collected by time on which driver is picking up.

These statistics are derived by taking total trip raw data for a busy month (October 2009) and a non-peak month (August 2009). As shown by this data analysis, there are a large number of San Antonio taxi drivers who prefer to exclusively work the airport. The total number of

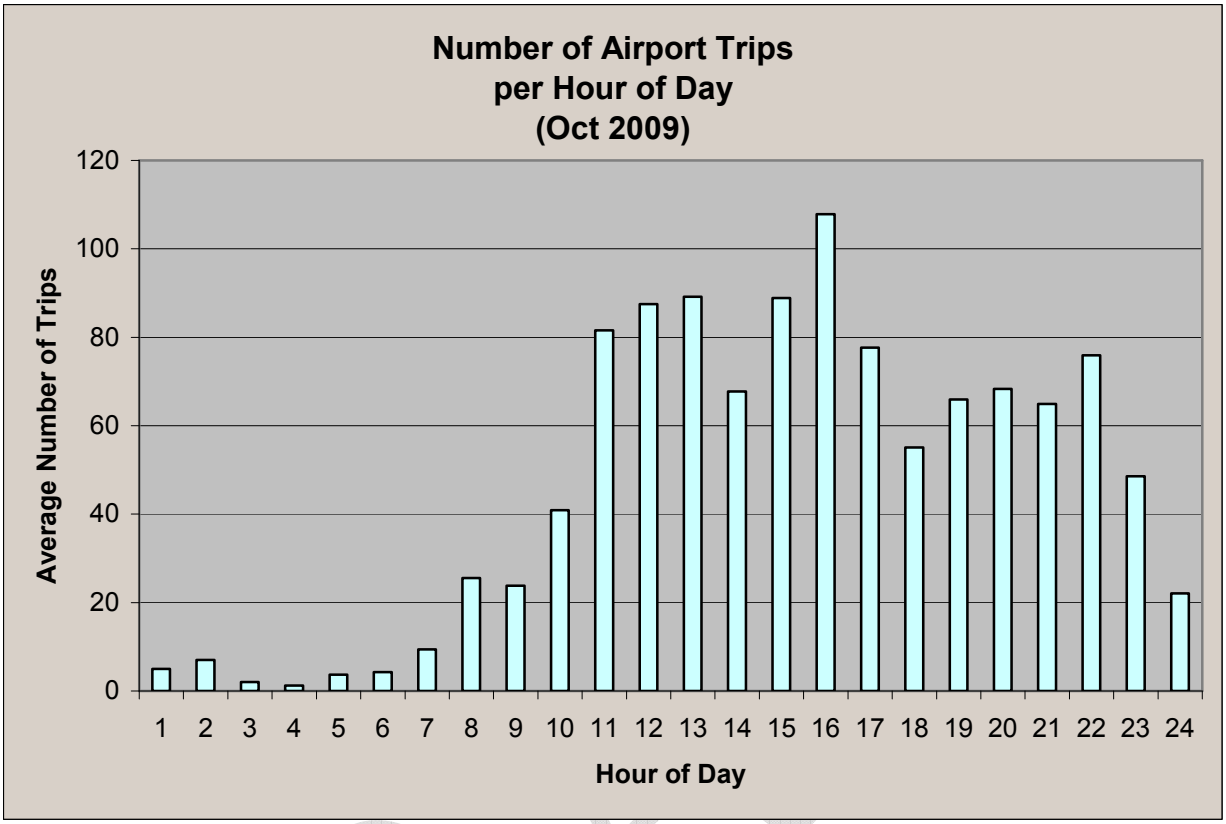
drivers which purchase airport permits averages 435 drivers. Most of these would be drivers who achieve an average of two or more taxi trips per day from the airport walk-up line and are at the airport a majority of time.

One of the most striking statistics from the data was the fact that many drivers worked the airport for an average of 4 trips per day during their peak month and only 3 trips per day during non-peak months. Given the revenue from most trips, $25 per trip, this is $100 per day during good days and $75 or less during most days. As will be shown later in this report, such revenues make working the airport a job that pays less than the minimal wage per hour on many days! The obvious question is, "Why would someone want to do this?"

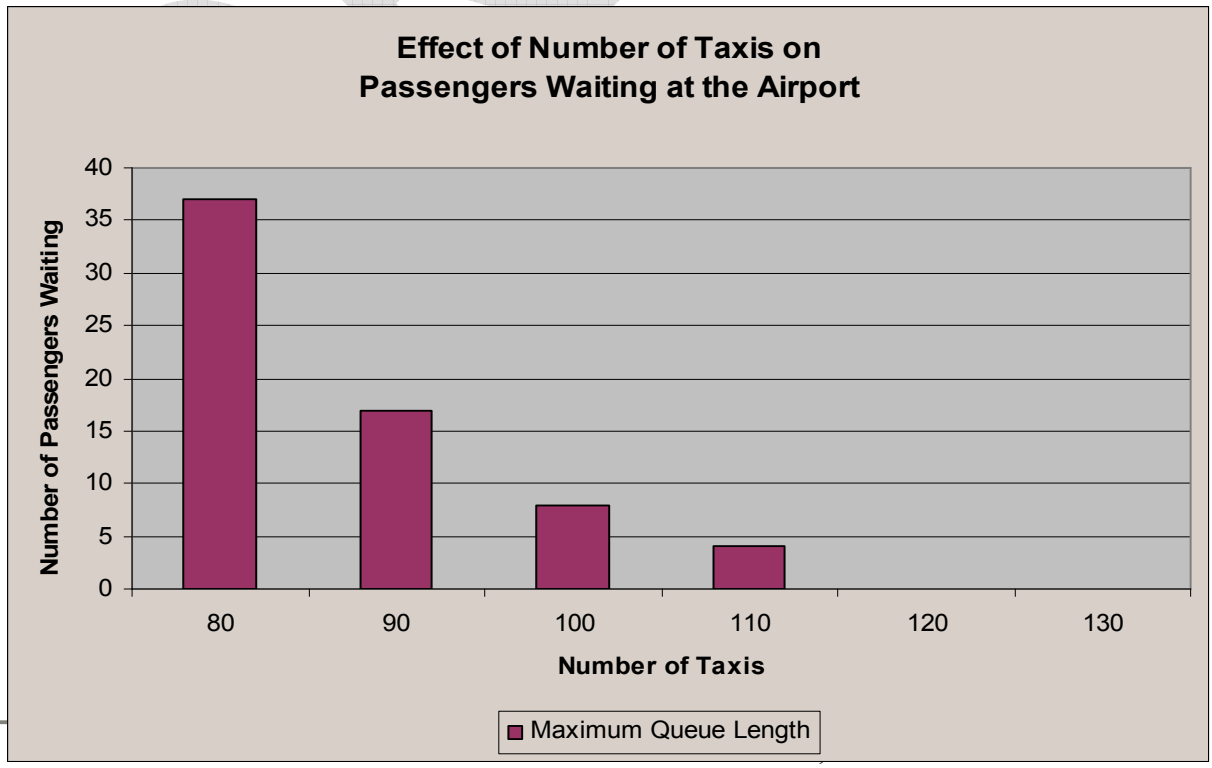
A second observation from this data is the number of hours that many spend at the airport. While the average time between the first pick up and the last one at the airport is between 6 and 7 hours, one has to recall that a driver may have already waited 2 or more hours before their first pickup. The range of hours spent at the airport should be alarming to anyone associated with commercial driving and safety. Some drivers have spent up to 19 or more hours in the airport holding lot serving the airport. Many spend ten or more hours after waiting to get their first fare from the airport and presumably taking the customer from the airport as their last fare of the day. Adding a minimum wait time at the airport for the first trip and another thirty minutes to serve the customer, their driving days often exceed 12 hours or more. This was also confirmed in meetings with the drivers about the difficulty of making a living serving the airport and the long hours they must spend at the airport – especially during the off peak months.

Clearly the situation at SAT is not a good one for either the airport or the taxi drivers wishing to work the airport. There are just too many taxis waiting to pick up arriving passengers. This oversupply of taxis is reflected in a high minimum fare from the airport, short trips refusals, and heavy demands on holding lot facilities and excessive airport curb management costs as each taxi has to be inspected and drivers reminded that short trips are to be expected and provided. This situation is not healthy for the taxi drivers, the airline passengers, or the airport staff.

Shown below is the peak hourly number of taxicabs presently being dispatched by the airport. As one can see the peak hour demand is for no more than 110 taxis. Due to the short distance between the airport and city center, taxis can make this trip and quickly return to the airport within an average of 45 minutes.



These airport taxi dispatch data were utilized to simulate the amount of wait time customers would have to wait if the number of taxis were significantly reduced.



As shown, even during peak airport travel season, 120 airport taxis would be more than sufficient to meet demand for taxis at the airport. If, and when demand would exceed this, additional taxis could be summoned to the airport within a matter of minutes. Therefore, the number of taxis serving the airport could easily be cut in half, 216 taxis, and the airport would still be sufficiently served with the drivers obtaining twice the number of trips per day they currently achieve.

San Antonio Taxicab Driver Cost and Revenues

As shown throughout this study, there are two distinctly different taxi markets being served in the San Antonio area. One is the call/dispatch/contract voucher market being served by San Antonio's two full service taxi companies, Yellow Cab of San Antonio and AAA Taxi. These two companies charge significantly higher lease rates than the two San Antonio taxicab consortiums of A1 Taxi and San Antonio Taxi which concentrate on the airport and downtown hotel stand markets.

The following analysis provides a realistic narrative of costs and revenue associated with these two distinctly different market and cost approaches. As with any estimates of taxicab driver income and revenues, the range is typically quite large since no two drivers work their taxi lease opportunities the same way. The continuum of driver behavior runs from the strictly airport driver who deadheads to the airport for his first fare, services that customer and then returns to the airport empty in order to get into the holding lot waiting line as soon as possible. He/she continues this pattern the entire day for up to 12 hours or more. This driver may wish to pay a very low lease or affiliation rate to his/her consortium because he/she does not desire to serve any dispatch calls or other markets other than the airport.

The other end of the driver behavior continuum is the driver who pays a much higher lease rate for dispatch calls but works his/her computer for all possible calls, has personals, participates in prearranged voucher or social service trips, and otherwise "works" his permit, seeking out as many trips per day as possible. Given these two operational extremes, it is easy to see why individual costs and revenues will vary greatly.

Following are these two basic cost and revenue scenarios for San Antonio taxi drivers:

Driver Revenue/Cost Estimates

- Airport Taxi: Owner-Operator
  - Low weekly permit/dispatch fees < $100
    - Daily = $14.25
    - Monthly $375
  - Daily fuel costs of $25.00
  - Daily vehicle costs of $20.00
  - Daily revenue; 3-4 trips (peak) = $75-$100
    - One stand trip = $25
  - Profit range = $40.75 to $ 65.76
  - Hourly range on 10 hour day = $4.08 to $6.58 - per hr

As shown, the airport driver's income is decided entirely by the number of outbound trips he/she receives from the airport taxi walk-up line. The driver has no way of influencing the number or length of the trip from the airport since he/she must wait in line and passengers take the next cab in line. In this scenario, the driver's income is easy to estimate since the average number of trips during peak and off peak times are know from the airport's driver charge card as they enter the airport's taxi pick up area.

Since the driving distance to and from the from the city center to the airport is known, the fuel and other operating costs for this 200 miles of driving per day are relatively easy to estimate. True, some trips are shorter and some trips are longer than the primary one to the downtown area, but it is assumed that over the course of a month or a year, these balance each other out and the average driver runs his or her cab between 150 and 200 miles per day.

Granting at least one hotel stand trip back to the airport results in an estimated income $125 per day during peak and an operating profit after expenses for vehicle operating costs, lease or affiliation costs, and fuel of $65.75 or an hourly wage of $6.58 if the driver spent only 10 hours to achieve this income. Alternatively, during non-peak times of only three trips per day from the airport, the income per hour could and probably often is only $40.75 or $4.08 per hour – less than the minimum wage!

Driver Revenue/Cost Estimates

- Dispatched Taxi: Lease Driver
  - Higher daily permit/dispatch fee = $75 - $85
  - Weekly fees of $284 for permit, dispatch, insurance; $150 for cab rental, $50 for damage deposit and other operating fees for a total of $448 per week
  - Daily fuel costs of $40.00
  - Daily vehicle costs: Included in lease rate
  - Daily revenue; 10 – 20 trips from dispatch, prearranged vouchers, social service agencies, some airport, and stands. Average fare is $16.75 plus 15% trip = $19.26
    - Daily total revenue ranges from $192.60 to $385.20
  - Daily profit after expenses of $125 = $67.60 to $260

As shown, the lease/dispatch taxi driver pays considerably more for his/her daily lease per day, but has the opportunity to make somewhere between 10 and 20 trips during his/her 12 hour shift. This results in a significantly higher income per day and a greater range of income. Following the same basic logic as assumed for airport taxi drivers, after allowing for costs, the dispatched driver can earn as little as $5.63 per hour up to $21.66 per hour on their taxi driving shift. Working six days per week, 12 hours per day, and having a number of personal clientele, the more aggressive lease taxi driver can earn a relatively good income of up to $78,000 per year working 50 weeks per year. However, this is highly unlikely and would be unusual. Most San Antonio lease/dispatch drivers would not make $75,000+ per year before taxes. However, there are probably many San Antonio lease/taxi drivers who achieve an average of 15 trips per day and work 5 to 6 days per week, depending upon the week and their income needs, and make $45,000 per year before taxes.

Frequent User Surveys

Sampling the public's opinions in terms of the price, service, and vehicle appearance is helpful in gaining an understanding about how they feel about the current taxi service, the individual provider companies, and any concerns they may have for the future of taxicab services within their community. However, individual local residential users are difficult to survey. A general mail survey goes to a majority of individuals who never or seldom use taxis, and therefore hold no attitudes based on a number of actual experiences.

In this study, mailed questionnaires were utilized to obtain opinions from frequent users. Frequent users are those who have an occasion to call for and observe taxi services frequently.

Thus, the questionnaires were distributed primarily to hotels both within and without the downtown area; and to restaurants and community service institutes within the City of San Antonio.

Sampling method

The convenient sampling method was used in this study. Surveys were mailed with a cover letter and a self-addressed stamped envelope for easy return. A total of 49 surveys out of 423 (minus 37 returned for bad addresses) were returned, for a response rate of 12.6%. The response rate achieved was somewhat less in comparison with other communities but provides a sampling of opinions regarding local taxi service in the San Antonio area by individuals calling for taxicabs on a frequent basis.

Questionnaires

The questionnaires included several types of questions. The first part asked respondents to tell us which taxi companies they used most often. The second part included a series of close-ended questions with attitudinal (order) choice. These questions were used to seek their view of taxicab arrival time, driver professionalism, vehicle quality, and so on. The last part consisted of open-ended questions asking respondents for any comments they may have regarding their local taxicab service.

San Antonio Taxi Service Questionnaire Results

The following is a summary of the responses and rating local San Antonio taxi operations and their companies.

Question 1: ***Which taxicab companies do you regularly call for service?***

	RESPONDENTS:				
COMPANIES	**HOTEL DOWNTOWN**	**HOTEL NON-DOWNTOWN**	**OTHER DOWNTOWN**	**OTHER NON-DOWNTOWN**	**COMBINED**
7-11	0	0	0	0	**0**
A-1	0	0	1	0	**1**
AAA	4	8	0	0	**12**
Armadillo	0	0	0	0	**0**

Arrow	0	0	0	0	**0**
Concord	1	0	0	0	**1**
Crown	0	0	0	0	**0**
Diplomat	0	0	0	2	**2**
Excel	1	0	0	0	**1**
Fabulous	1	0	0	0	**1**
Jetline	0	0	0	0	**0**
Kwick	0	0	0	0	**0**
Nat'l	0	0	0	0	**0**
Owl	1	1	0	0	**2**
Quality	0	0	0	0	**0**
Legacy	1	0	0	0	**1**
Rivercity	2	1	0	1	**4**
Royal	0	0	0	0	**0**
S.A. Exec.	0	0	0	1	**1**
San Antonio Cab	2	1	0	0	**3**
San Antonio Taxis	3	0	0	0	**3**
Star	0	1	0	1	**2**
Sun	1	0	0	0	**1**
Superior	1	0	0	0	**1**
Towne Car Services	1	3	1	2	**7**
United	0	0	0	1	**1**
Yellow	10	24	2	7	**43**
Other	0	0	1	0	**1**

As shown by these results, most downtown hotels have their favored taxicab service company or dispatch consortium. However, it is evident that outside the downtown area, only the City's two full service taxi companies, Yellow and AAA Taxi, are servicing these hotels and other frequent users. This picture of service availability becomes clearer in the replies to Question 2 below:

Question 2: ***Does your establishment have a primary relationship with any one taxi company?***

Respondent Category	Yes	%	No	%
Hotel Downtown	2	20%	8	80%
Hotel Non-Downtown	6	25%	18	75%
Other Downtown	2	33%	4	67%
Other Non-Downtown	3	33%	6	67%

ALL COMBINED	13	27%	36	73%

Question 3: ***What is the average wait time for a taxicab to arrive at your establishment after being called?***

Average Wait Time	Hotel Downtown		Hotel Non-Downtown		Other Downtown		Other Non-Downtown		Combined	
	Average	%	Average	%	Average	%	Average	%	Average	%
Less than 5 minutes	1	10%	1	4%	0	0%	1	3%	3.14	6%
5-10 minutes	8	80%	9	36%	2	50%	3	8%	23.66	47%
10-15 minutes	1	10%	10	40%	0	0%	1	3%	12.50	25%
15-20 minutes	0	0%	4	16%	1	25%	2	5%	7.41	15%
20-30 minutes	0	0%	1	4%	1	25%	1	3%	3.29	7%
More than 30 minutes	0	0%	0	0%	0	0%	0	0%	0.00	0%

As shown by the responses above, the general response time experienced for taxi service at respondent establishments would be considered very good. Slightly over 90% of the respondents in the downtown area indicate they can expect a taxi to arrive within 15 minutes or less after being called, and most respondents felt this response time was reasonable. Given the size of the metropolitan area and possibility of major traffic delays, responses from non-downtown hotels indicating they receive taxi services within 15 minutes or less, 80 percent of the time also indicates excellent taxi service response rates outside of the downtown area.

Question 4: ***How would you rate taxi service?***

Service Type	Hotel Downtown	Hotel Non-Downtown	Other Downtown	Other Non-Downtown	Combined
Promptness	4.22	3.96	4.50	4.00	4.17
Answering phone	4.20	3.86	4.75	4.44	4.31
Courtesy	3.40	3.86	4.25	4.67	4.04
Driver appearance	2.80	3.48	4.00	4.44	3.68
Willingness to pick up	4.20	3.87	4.25	4.50	4.20
Handling complaints	3.44	3.39	3.00	3.00	3.21
Vehicle appearance	4.11	4.17	4.75	4.50	4.38

Credit Cards	4.60	4.28	5.00	3.67	4.39
Affordability	3.90	3.82	4.00	4.13	3.96

As shown by these responses, there appears to be the general feeling that taxi service is "good" on all attributes except driver appearance. Also, handling of complaints, were rated as just "OK". Driver appearance (most likely dress) was the lowest rated attribute – especially by the downtown hotel personnel. As shown by responses to the open-ended question at the end of the questionnaire, hotel respondents pointed out that the taxi drivers were in customer service industry and that appearance was important. Thus, the average rating of just "OK" for driver appearance was common.

Question 5: ***Do you find taxi service to be significantly different during peak season (February-March) versus off-peak season (July-August)?***

Respondent Category	Yes	%	No	%
Hotel Downtown	4	40%	6	60%
Hotel Non-Downtown	10	42%	13	54%
Other Downtown	2	33%	1	17%
Other Non-Downtown	1	11%	6	67%
ALL COMBINED	17	35%	26	53%

There seemed to be the general feeling among respondents that there was really no difference in San Antonio taxi services due to peak vs. non-peak tourist months.

Question 6: ***Is it important for your guests to be able to use credit cards for taxi service?***

Respondent Category	Yes	%	No	%
Hotel Downtown	10	100%	0	0%
Hotel Non-Downtown	23	96%	0	0%
Other Downtown	4	67%	1	17%
Other Non-Downtown	5	56%	3	33%
ALL COMBINED	42	86%	4	8%

The respondents were nearly unanimous that it was important for their customers to be able to use their credit cards for taxi services in San Antonio.

Question 7: ***Do you arrange other forms of transportation (limo, shuttle, etc.) for your guests?***

Respondent Category	Yes	%	No	%
Hotel Downtown	5	50%	5	50%
Hotel Non-Downtown	14	58%	10	42%
ALL COMBINED	19	56%	15	44%

Companies Mentioned: Krystal Limo, Airport Express, SA Trans Charter, Star Shuttle, ETS, MAC Trans, Elegant Limousine, Airport Shuttle, in-house shuttle

Arrangements: Phone - 11; Concierge - 2; Guest Services - 1; Described as "poorly" – 1

One attribute of poor taxi service in a community is the extent to which alternatives are sought by those arranging ground transportation for their guests. As shown by replies to Question 7, half of the hotel respondents arrange for specific ground transportation services or feel the need to operate their own services. In general, this response indicates the current providers are doing an adequate job of satisfying traditional taxi demand for ground transportation service but that hotels have a need for a broad range of ground transportation services to offer their quests and want the ability to offer alternatives to the taxi on their properties.

Question 8: ***Do you know whom to call if you have a problem with taxicab service?***

Respondent Category	Yes	%	No	%
Hotel Downtown	6	60%	4	40%
Hotel Non-Downtown	12	50%	12	50%
Other Downtown	0	0%	5	83%
Other Non-Downtown	3	33%	4	44%
ALL COMBINED	21	43%	25	51%

17 stated they would call the company.

1 stated they would call the city.

It would appear that slightly half of the respondents know whom to call if they have a problem but, alternatively, half the respondents do not know to call the GTU when problems of taxi services arise.

Question 9: *Please list any comments you would like to make regarding San Antonio taxicab service.*

Hotel Downtown

	+	-	n/a	#	Comments
			1	1	Would really be more service oriented if driver would enter lobby and announce he's here so customers would know. Too often driver stays outside while guest waits inside for him.
Total	0	0	1		
%	0%	0%	100%		

Hotel Non-Downtown

+	-	n/a	#	Comments
	1		2	I would like to make a brief comment. Several times in the past couple of years, Yellow Cab taxi drivers try to scare the incoming guests they are bringing to …in the Fort Sam area by telling them how dangerous the neighborhood is and as a result we have lost business! We have no excessive crime in our area. Sincerely, …Owner.
	1		5	1) need to know directions better. 2) be nice! 3) don't tell them hotel is paying! 4) if give conf. #. 5) fill out receipt
	1		6	Sometimes phone takes too long get answers and there some days like Fiesta-Marathon & big concert in town they have very long wait and even long wait for somebody to answer.
1			7	AAA Taxi has been here before; the drivers are extremely polite and take wonderful care of our guests. Some drivers are not always enthusiastic about their jobs.
	1		8	Cab drivers consistently complain about hotels and unjustly accuse them of extortion. They should look at their own business practices.
1			9	Cab service is fair, normally good drivers. Yellow Cab is secondary to our own since Holiday Inn Shuttle is for downtown area only.
		1	11	Need more drivers, little less expensive and a program with hotels for billing services.
	1		16	Treat everyone fairly and do not charge more for the young men in the military.
1			18	We have had Mr. Daniel Martin as a cab driver (Yellow Cab) often. He is very prompt, professional and courteous. We are very satisfied with the service Yellow Cab has provided.
1			19	Great!
	1		21	Our facility is only 1.2 mile from Riverwalk/Alamo. I got a bill for $9.20 from … cab driver. Please advise drivers not to price gouge.
1			24	The issue I hear from guests is that cab drivers get very upset and rude when they have a short fare from the airport to an airport hotel.
Total	5	6	1		
%	42%	50%	8%		

Other Downtown

+	-	n/a	#	Comments

		1		1	One of the general problems is attitude of all taxi drivers from airport, especially if the fare isn't downtown.
	1			2	Have never had complaints about this service, on the contrary, many have said that their driver knew exactly what they were looking for!
		1		3	City-supervised taxi concierges always paid off. Service to visitors "poor" without gratuity up front.
		1		4	The typical drivers tend to be a bit rude and aggressive drivers
Total	1	3	0		
%	25%	75%	0%		

Other Non-Downtown

	+	-	n/a	#	Comments
			1	6	Less wait time; when answering phones they need to be more friendly.
		1		7	…. Cab company not accommodating
Total	0	1	1		
%	0%	50%	50%		

Question 9 represented an opportunity for respondents to provide any written comments regarding San Antonio's taxi service and taxi companies. These comments are broken down into positive, negative, and neutral comments. It would that the downtown hotels had few comments, while the non downtown hotels were split between positive and negative comments. However, other downtown establishments were overwhelmingly negative.

What stands out from these written comments is the difference between downtown and non-downtown hotels. Clearly the non-downtown hotels had more to say about the taxis arriving at their establishments – primarily about driver's dress or lack thereof. While pleased with those taxis they permit to wait at their properties, they feel other taxis need some improvement in driver attitude and dress. The need to improve driver appearance for the benefit of the hospitality industry and the taxi drivers themselves was mentioned several times. Overall, these comments indicate a concern for the need of good taxi service but yet, in comparison with other communities, not a general level of frustration that current operations need to be replaced by more responsive and newer taxi operators. This is not always the case when questioning frequent taxi users in other communities.

Survey Comparisons Among Cities

Below are the responses to a similar questionnaire in several other communities. As shown, San Antonio respondents rate their taxi service better than their counterparts in other

communities. However, it should be pointed out that these other communities were having their taxi services reviewed because many felt major changes were needed in their local taxi industry.

Service	Dallas	Orlando	Orlando	Miami	Winnipeg	Regina	Saskatoon	San Antonio
Promptness	3.54	3.44	4.44	3.5	2.8	3.9	3.5	4.17
Answer Phone	3.61	3.77	4.77	3.9	2.9	3.9	3.3	4.36
Courtesy	3.02	3.69	4.69	3.4	3.3	3.7	3.8	4.04
Appear/Driver	2.69	3.61	4.61	3	3.4	3.4	3.7	3.68
Willingness	3.87	3.85	4.85	3.5	3.2	4.5	4.1	4.2
Handling	2.7	3.33	4.33	2.9	2.7	3.5	3.3	3.21
Appear/Vehicle	3.31	4.05	5.05	3.3	4	3.8	4.4	4.38
Credit Cards	3.25	3.62	4.62	3	3.2	NA	3.6	4.39
Fares/Costs	3.1	3.1	4.1	NA	3.5	NA		3.96

As one can see, when San Antonio is compared to other cities which were know to have taxi service issues, it fares quite well. Thus, as mentioned several times in this report, there are a lot of good things the current operators are doing. The image and service problems of the past decades appear to have subsided as the majority of the taxi industry of San Antonio has apparently "cleaned up its act". Thus, major structural changes are not required as they were in some of these comparative cities. However, moving forward, San Antonio must provide a way for successful taxi operators wishing to serve the entire community to grow and for all its taxi operators to serve the taxi needs of entire San Antonio region.

There is the feeling among some operators and managers within the San Antonio taxi industry that taxicab service is a "simple" business of a driver and a vehicle – that it should be an industry of independent drivers who have the right to serve whatever markets they choose, when they choose, and how they choose with a vehicle that is one of their choosing.

However, the reality of the taxi industry today is anything but a simple business. It is a technology driven business that uses GPS, computerized dispatching, automatic invoicing, driver tracking and tracing, credit card swipes, fleet vehicles for customer image and double shifting economies. It is an industry that is rapidly changing the way it does business from one using cab stands and the customer coming to the stand to an industry that responds to a cell phone app that automatically requests a taxi and through GPS lets the nearest taxi driver know where they are and when they want their taxi.

It is also a heavily marketed industry of varying levels of customer service, vehicles, and pricing for various target market segments. It is an industry with economies of scale when one

considers a large fleet of vehicles spread throughout the community can serve the community needs faster and with less deadhead miles than smaller companies with little or no modern technology. The current era of the totally independent taxicab driver doing what he/she wants, is coming to an end – especially in tourist oriented communities concerned with their public image and the care of their visiting quests.

Nowhere is this new image for taxicab services more important that the community's airport. Following is a review of the data retrieved from the San Antonio International Airport (SAT) regarding the number of taxicabs dispatched during the prior year. Data from the Airport's taxicab driver charge card reader was utilized to simulate the taxicab demand at peak times to determine the maximum number of taxicabs required by the airport so that passengers wishing taxicabs would not experience any wait time at the airport.

Summary, Observations, and Discussion

San Antonio's taxi issues can be summarized by the following points:

- Recognition that the taxi business is not a simple business
  - Today's taxi operations require substantial investment and daily management of operations
- Numerous taxi companies confuse customers – many San Antonio taxi companies are not of sufficient size to respond to community-wide transportation needs
- Airport taxi drivers spend far too much time waiting for fares – they need substantial help in the form of dispatch and other stand fares or business in order to make a reasonable living driving a taxi
- Adding capacity in airport market would significantly harm existing drivers economically
- Permit and fare system should reward drivers and taxi companies that generate additional business
- Permitting drivers who are "on duty" to refuse dispatch calls even though they are the closest taxi
- Permitting drivers to serve only limited market segments

Modern GPS based taxi dispatch technologies, computerized phone reception and record keeping have made the taxi industry much more efficient, effective, and customer oriented. Computerized call taking allows repeat callers to be recognized by the computer on the first or second ring. Such is very helpful to hotel clerks and restaurant personnel who have to make frequent calls for taxi services. Modern taxi technology has changed the taxi industry significantly - making it a much more complex, management oriented, and capital intensive business. It is no longer a "simple" business of a driver and a car!

Computerized dispatching is extremely helpful to the taxi industry when it is coupled to GPS in the taxis. The computer can provide the trip for closest car, phone ahead to the user to let them know that their driver will be there in two minutes and to go to the designated pick-up point such as the south side of the Alamo, for example. Along with automatic credit card swiping, and turn by turn directions possible with GPS digital dispatching, the driver saves considerable time and the service is improved for the user, thereby improving the image and quality of the cab service.

Of course, GPS dispatching is only effective if taxi drivers accept the computerized dispatch when offered. Drivers, who are working as independent contractors, often feel they have the right to accept or reject any dispatch request for service if they do not like the trip that is being offered. Such reluctance, for sure, is reasonable when a driver may feel personally threatened by the location of the pickup or the destination requested. Such respect for a driver's judgment needs to be respected in the industry. However, in cases where a driver simply doesn't feel like taking the trip – preferring to wait on a better one, this discretion should be overshadowed by the individual's need for a taxi in the shortest time and distance possible. Thus, GPS dispatching works best when computerized dispatch calls are treated as any street hail or first in line at the airport or hotel stand. The driver is the next in line (in the GPS example, the closest to the pickup or the one that has been in the zone the longest and closest to the pickup) and he/she is the one who takes the trip. A more detailed description of such taxi dispatch systems, their costs, and examples from leading supplier can be found in **Appendix E: Modern Taxi Dispatch Systems.** San Antonio consortium taxi dispatch companies need to expand their technology and that of their taxis to be able to provide these amenities which are becoming common place in modern taxi systems.

Forms of Taxi Regulation

Just as was discussed earlier as framework from which to view different taxi company types, there are also a number of ways that one can regulate taxicabs. These ways can also be viewed as a continuum from just licensing taxi companies and drivers to that of a comprehensive regulatory structure that controls market entry, exit, fares, mergers, operating and reporting procedures, and labor arbitration.

The type of taxi regulation should be derived from the philosophy and strategy city officials have decided to follow in this regard. Do city officials want to permit the private sector to manage the taxi services under broad standards of service, preferring not to become the personnel department for city taxi drivers, or does the City want to use their taxi operations to achieve social objectives such as minority ownership, livable labor wage rates, service to minority areas, service to transportation disadvantaged, or cleaner air through all electric taxi vehicles for example.

Of course the decision is not one or the other, but mostly some combination of various activities between these two extremes. Should a community desire a private sector orientation but desire solid standards of performance, then it needs to design a system of taxi regulation that manages through data indicating whether these standards are being met or not. Taxi drivers are screened with respect to appropriate background, driving experience and local knowledge, but training and day-to-day management of their activities is left up to the taxi companies. Otherwise, they leave the taxi companies flexibility in meeting and developing taxi service demands. This level of taxi regulation would be considered "Light Regulation". Unfortunately larger tourist oriented cities which have had taxi problems in the past typically regulate their taxi operation to a greater degree, which can be characterized as moderate or heavy taxi regulation.

Moderate taxi regulation would involve such things as more extensive training of taxi drivers, on street supervision, disciplining of drivers – becoming the personnel department of the taxi companies since they argue that the drivers are independent contractors and they have no control over them. Other moderate regulation activities may include more financial reporting by taxi companies, involvement in lease disputes, and greater and greater detail with respect to what vehicles may be utilized for taxis, alternative fuel use requirements, or specifying driver dress.

Heavy taxi regulation would be complete managerial and financial control over the taxi companies and drivers with respect to entry requirements, lease charges to drivers, minimum/maximum hours of service, driver discipline by the city, driver expulsion by the city, and extensive operational and financial reporting by the industry. Usually the setting of driver leases by type of vehicle such as that of the New York City Taxi and Limousine Commission (the regulatory arm of New York City) provides a good example of heavy taxi regulation. Another might be the specification by the City of Orlando that one of their taxi companies serving the city be minority owned; another one has to be female owned; another West African owned, etc. – the use of the taxi company or driver permit as an instrument of local city social policy.

San Antonio has the opportunity to develop its two taxi consortiums into Category 2 full service taxi operations through further consolidation of the smaller taxi companies operating within the City.

Horse Drawn Carriages – Review & Recommendations

Normally, one may only think of a horse carriage ride as a romantic and/or family-friendly activity. While this may be true in many cities, San Antonio has a historical and unique connection to horse carriages. Primarily seen around the Alamo, horse carriages compliment the ambience of this western era site. Although tourists may not choose to visit San Antonio for the horse-drawn carriages, survey responses from hotels and restaurants/bars indicate that carriages are a point of interest for visitors.

A review of the horse-drawn carriage industry in other cities indicates that there are two primary concerns: safety of the roads and the welfare of the horses. As a result, most municipalities have established ordinances that provide standards of care and working conditions for the horses. In order to address traffic issues, municipalities will restrict roads on which horse-drawn carriages may operate and the times when they may operate. Finally, some municipalities restrict the total number of carriages allowed.

Although there may a benefit to having horse-drawn carriages in San Antonio, too many can present serious problems with animal waste and traffic congestion. As a result, it is important for the City of San Antonio to regulate the number of carriages in operation. Insurance requirements for other cities seem to be fairly consistent, with owners being required to insure at the following levels: $100,000 bodily injury one person, $300,000 bodily injury two or more persons, and $50,000 personal property damage. These seem low for a publically operated amusement activity on city streets. And, since there were few concerns with San Antonio's $1 million overall liability requirement, we see no reason to decrease the current level of insurance required for the carriage industry in San Antonio.

During the San Antonio study, several issues were identified in the local horse-drawn carriage industry. First, the wait period for background checks on carriage drivers takes between 60 and 90 days. This makes it difficult for the carriage companies to hire drivers. Under current conditions, new hires have to wait at least a couple months before they can begin working full-time.

Secondly, drivers have been known to load passengers in places other than where authorized in order to get additional rides and not have to return to the back of the line. Also, the recent increase in the number of carriages has led to more aggressive solicitation practices. Stand-helpers from multiple companies approach people to try to get them to take their carriage.

Finally, drivers and stand helpers will readily negotiate a different price rather than adhere to their published rates which are not posted where a customer can determine the expected rate prior to boarding the carriage.

While economic theory states that an increase in supply with the same demand will reduce rates, the exact opposite has occurred with San Antonio horse-drawn carriages. When ten carriages where added to the supply at the Alamo stand locations, prices increased from twenty-five dollars to thirty-five, and finally, to forty dollars per couple. This is a 60% price increase. The belief is that the increase in rates would offset revenues lost due to the addition of two companies - all competing for the same demand. This need to increase the price reflects the fact that there is an oversupply for the existing demand as it relates to walk up carriage operations.

The primary area of carriage operations is in the Alamo Plaza vicinity, with two other stands located at La Villita and Historic Market Square. Currently, the La Villita and Historic Market Square carriage stands are not utilized. It is unknown if demand exists at these locations. However, there is the potential to establish these locations as a secondary market if the carriage companies stage carriages at these stands.

Traffic flow is an important consideration with regard to horse-drawn carriages since they move at a significantly slower pace than motorized vehicles. The route carriages currently use near Alamo Plaza does not seem to hinder traffic flow significantly since many of the streets being utilized are double lanes where vehicles can easily pass the slower moving carriages. This is most likely due to the fact that most of the normal traffic avoids this central city area and uses the surrounding roads.

For future routes, travel on roads with only a single lane in each direction should be kept to a minimum unless there is a shoulder where carriages can pull over to allow a backup of traffic to go around them. In addition, carriages should be restricted from travel on multilane roads with a speed limit greater than 35 mph, except when crossing at an intersection where a traffic control device is in use. All routes should be adjusted and approved with input from the Department of Public Works which is responsible for traffic management.

The results of the horse-drawn carriage survey suggest that although some consider horse-drawn carriages smelly and/or a traffic hazard, those same respondents consider them good for tourists and/or good for downtown. One hundred percent (100%) of hotel respondents and 60% of restaurant/bar respondents indicated that their guests inquire about the horse-carriages.

Fifty five percent (55%) of hotels and 40% of restaurant/bar respondents indicated they often have guests inquiring about the carriages.

Of those that answered the question regarding their experiences with horse-drawn carriage companies, all ranked their experience as acceptable or better. A distinct minority, twenty percent (20%) of all respondents think there are too many carriages while 13% of the respondents think there are not enough horse drawn carriages in San Antonio. The vast majority of respondents believe the number of horse-drawn carriages is about right.

Given the recent history of two new carriage operators, it is advanced that the recommendations which follow should be implemented in two phases. The first phase should be an interim phase no less than one year in duration. The City of San Antonio should properly license all existing carriage operators for a term of one year.

Additionally, a GTU person responsible for assisting the drivers as needed in addition to monitoring for code and rule violations should be dedicated to enforcement of the City's regulations for horse drawn carriages. The GTU person will report violations and issue tickets/notices to the offenders. The funding for this GTU person would be derived from an increase in the permit fee charged to the carriage companies.

The primary stand location at the Alamo on Crocket Street should also be extended to a sufficient length to accommodate five carriages. The rules would then restrict each company to have no more than one carriage at the Crocket stand. This allows each carriage company to have equal access to customers, with each having the opportunity to be at the front. As is currently done, the carriages would pull forward as one leaves, with newer carriages entering the line from the rear.

If possible, five hitching posts should be installed, allowing drivers to secure their horse in order to use the restroom. This eliminates the need to have stand helpers, which in turn reduces congestion on the sidewalk alongside the Alamo on Crocket Street and reduces solicitation. All carriages should be required to have their company name and phone number posted in such a fashion that it is readable by an ordinary person from a distance of twenty feet. Maximum rates should be established by the City of San Antonio and published on the curb side of the carriage where passengers normally board. It is recommended that the maximum fares be: $30 per couple, $20 per individual, and $10 per child. Although maximum rates are established,

this in no way implies that the operators would not have the ability to provide discounted fares for groups or individuals.

San Antonio horse and carriage regulations should establish two different types of operations for horse-drawn carriages. First is the on-demand or walk-up customer. This is the consumer that walks down past the carriage stand and decides he/she would like to go for a ride on a carriage. Second, there is the pre-arranged consumer. This consumer is one that arranges to be picked up at a different location such as a hotel or restaurant. Currently, services are only being provided to the on-demand consumer. Therefore, the recommendation is made to create two different concession agreements to enable the carriage companies to meet the needs of both types of consumers.

Each of the carriage operators should be given a year to prepare for a competitive process where the City of San Antonio will issue a RFP for four on-demand carriage operators, each with five permits. Those proposals that are accepted from existing or new carriers would enter into a concession agreement with City of San Antonio. Each concession agreement would be for a term of five years, with five one-year extensions, one year extension for each year of acceptable performance and compliance.

In addition, there should be a concession agreement for providing prearranged and/or special event carriage services for up to 10 carriages, or five each per concession. The prearranged carriage permits would be for use in picking up passengers that prearrange a carriage ride to be picked up at their hotel or restaurant. It is recommended that this be limited to a single company with five permits each. These would also run for a term of five years with five one year extensions possible.

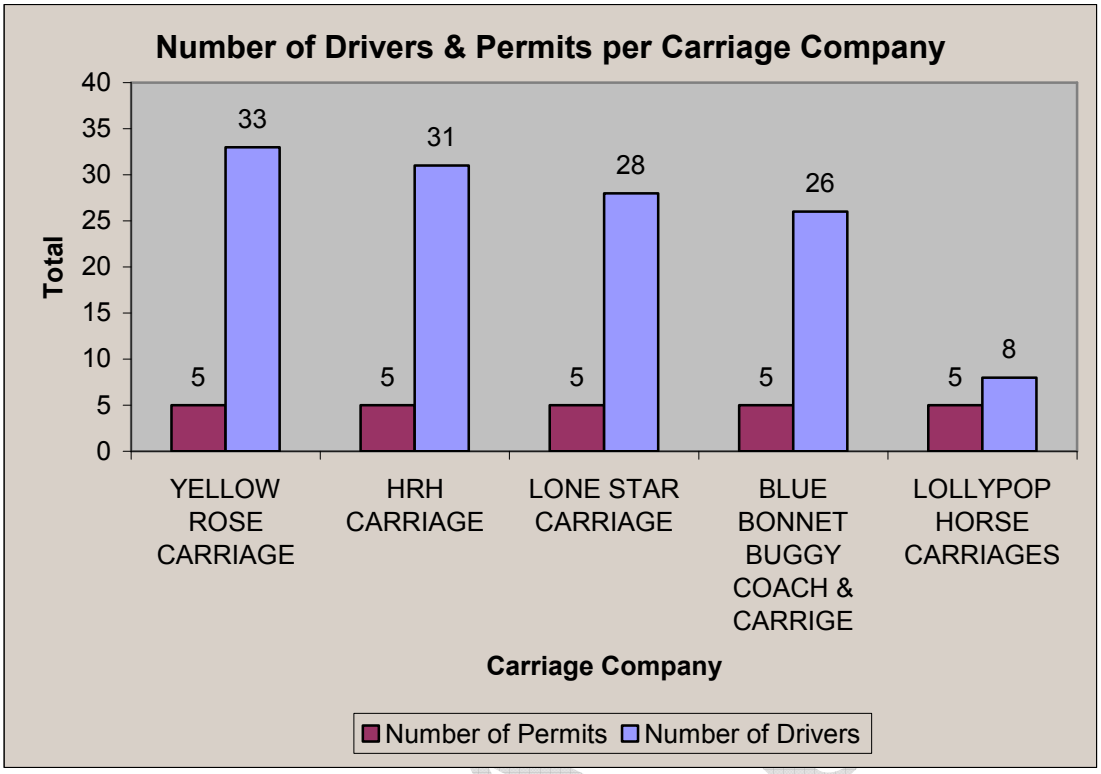
In addition, the City of San Antonio could use a prearranged carriage concession for special event type of carriage concessions for up to five carriages for special purpose or theme vehicles. This concession could be competitively bid for five years with five one-year extensions possible.

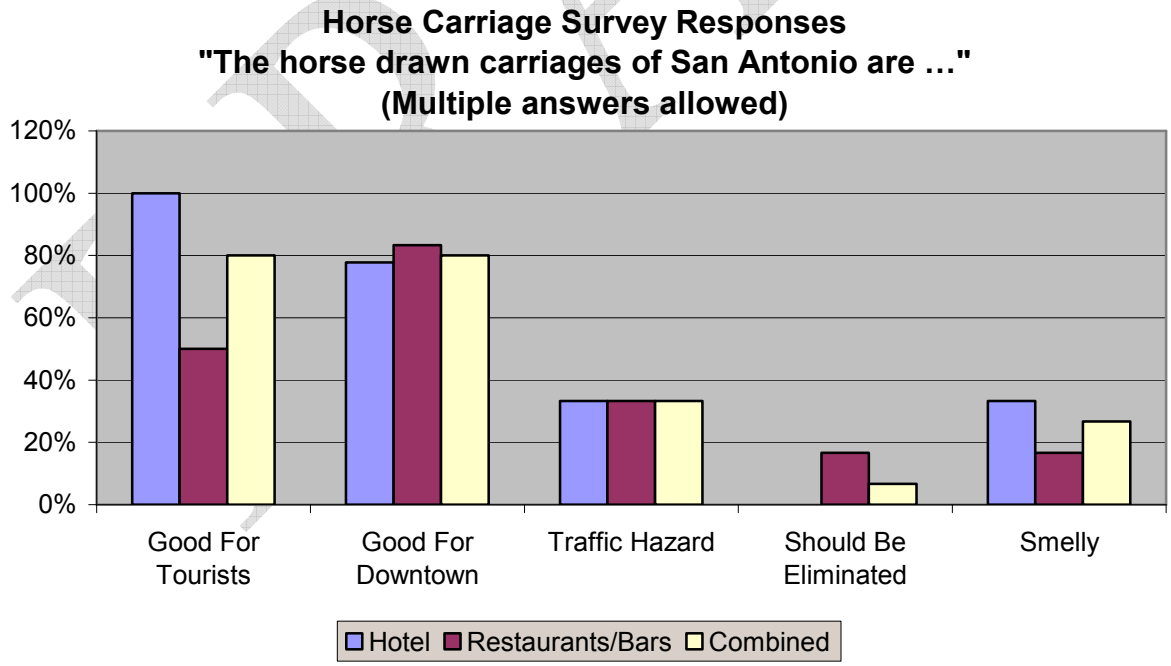
Also, current city ordinances need to be updated to explicitly define that the horse-drawn carriage permits are owned by the City of San Antonio as non-transferable, and subject to revocation or suspension with a 30 day notification period required. The ordinances also need to establish clear penalties for violation of the rules and/or ordinances. For example, first violation

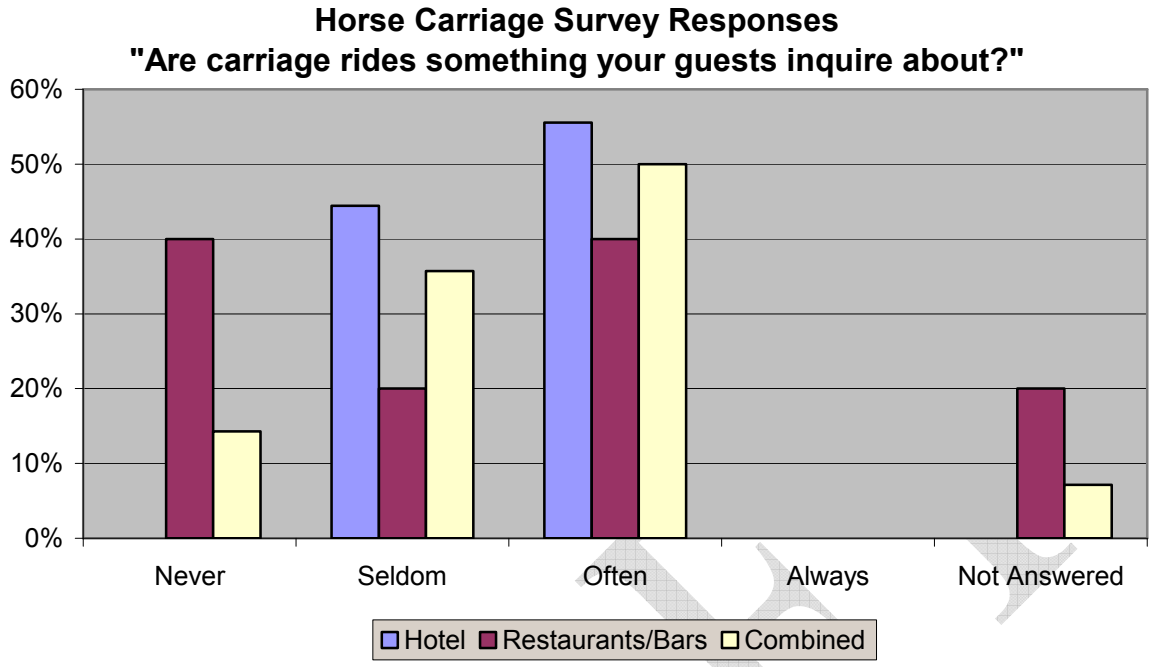
may give a warning; second violation might suspend operating rights for 1 week; third violation would result in a 30 day suspension; fourth violation would be a six month suspension.

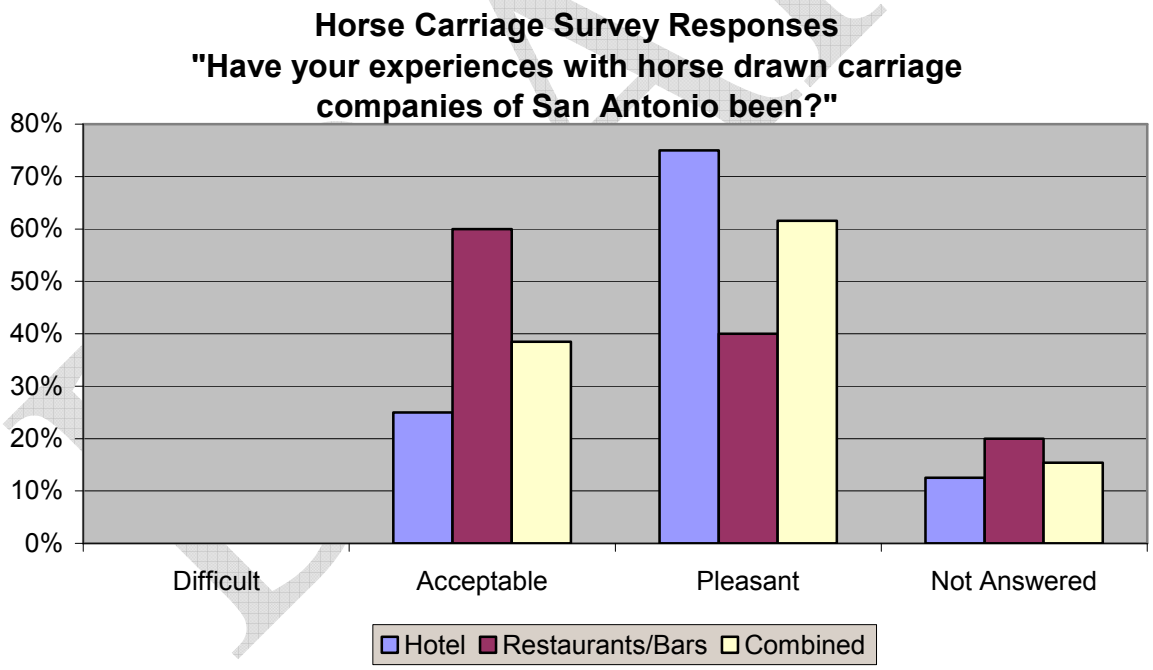
Finally, a maximum length of carriage/passenger size should be established by ordinance to restrict the companies from putting ever increasingly oversized carriages into service. These oversized carriages reduce the space available to accommodate multiple carriages at the stand and may be an undue burden to horses required to pull them when fully loaded.

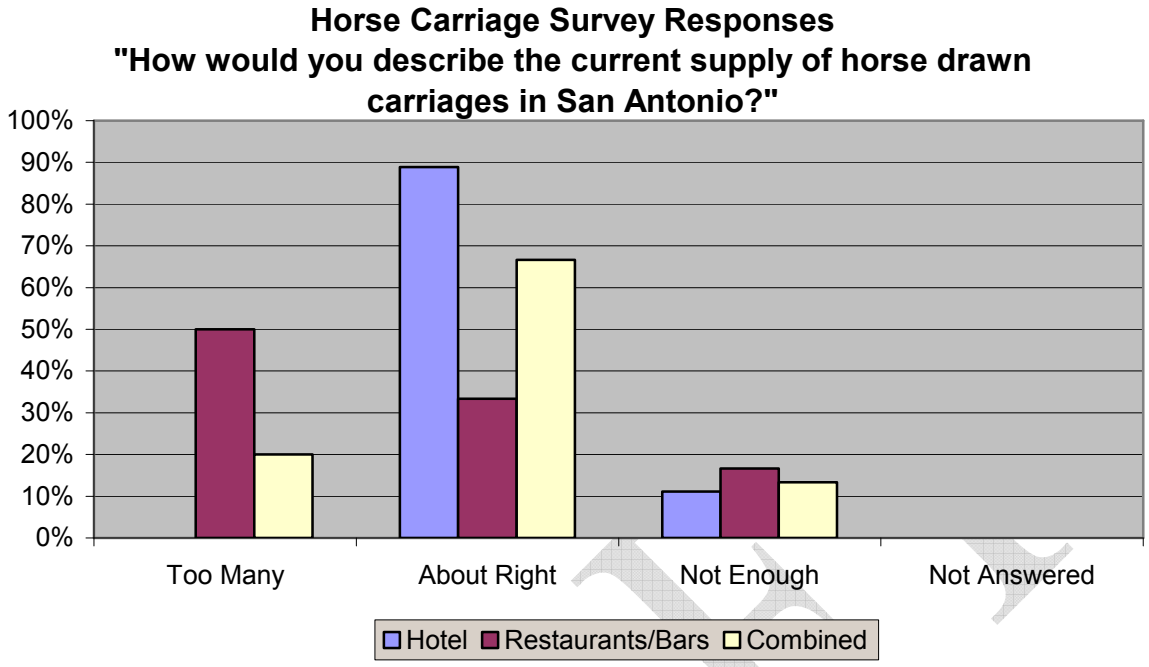
During the review of other cities with horse-drawn carriages, there were a few practices that stood out as particularly important. First, testing the horses and the ability of the driver to control the horse under stressful conditions is defined in the ordinances for the Borough of Gettysburg in Pennsylvania. In Denver, Colorado, the testing is conducted by the Denver Police Mounted Patrol, ensuring that drivers are capable of keeping the horse under control, important for the safety of the general public, the driver and the horse. In addition, Denver has quarterly meetings together with all companies in order to determine what problems exist, if any, and to resolve conflicts between companies. This communication is important in improving the business environment and will lead to improved service to the consumer. It is recommended that San Antonio implement a similar meeting program at no less than a biannual interval. Finally, the City would be wise to undertake a review of working condition requirements for horses engaged in carriage operations. Emphasis should be placed on temperature, with component for humidity and maximum size of carriage to pull.


Number of Drivers & Permits per Carriage Company
Total
40
35
30
25
20
15
10
5
0
33
31
28
26
8
5
5
5
5
5
YELLOW ROSE CARRIAGE
HRH CARRIAGE
LONE STAR CARRIAGE
BLUE BONNET BUGGY COACH & CARRIGE
LOLLYPOP HORSE CARRIAGES
Carriage Company
Number of Permits
Number of Drivers


Horse Carriage Survey Responses
"The horse drawn carriages of San Antonio are …"
(Multiple answers allowed)
120%
100%
80%
60%
40%
20%
0%
Good For Tourists
Good For Downtown
Traffic Hazard
Should Be Eliminated
Smelly
Hotel
Restaurants/Bars
Combined


Horse Carriage Survey Responses
"Are carriage rides something your guests inquire about?"
60%
50%
40%
30%
20%
10%
0%
Never
Seldom
Often
Always
Not Answered
Hotel
Restaurants/Bars
Combined


Horse Carriage Survey Responses
"Have your experiences with horse drawn carriage companies of San Antonio been?"
80%
70%
60%
50%
40%
30%
20%
10%
0%
Difficult
Acceptable
Pleasant
Not Answered
Hotel
Restaurants/Bars
Combined



Taxicab Recommendations

The following recommendations are being made as a "package" that is intertwined. They are heavily related and form a recommended policy of maintaining light taxi and horse drawn carriage regulation for the City of San Antonio. Some of the recommendations require a mind set change of the taxi drivers from that of being a completely independent contractor in a relatively simple business to that of a driver in a taxi network system controlled by a computer and customer phone calls. As with most recent TTLF taxi study reports, the recommendations are broken into major structural changes, company/vehicle/technology requirements, regulatory recommendations, and appropriate fees to support these recommendation. Each of these is discussed more fully below.

Major Airport Access Restructuring

The most significant structural change for San Antonio taxis is the recommendation to limit the access of currently airport permitted taxis at the airport. As shown by the SAT taxi simulation, there are approximately three (3) times the number of taxis at the airport's holding lot than are required to serve arriving passengers without any customers waiting. There is little question that the airport/stand market is oversupplied at present.

The recommended plan is to first allow current airport permitted taxi operators, which pay the airport the annual $150 permit fee, to serve the airport every other day for the first year. After one year, each operator would be allowed to serve the airport every third day. This would force airport taxis to serve markets other than just the airport, but give their consortiums time to develop their dispatch and other prearranged taxi business to make use of additional supply for other San Antonio taxi markets.

This process could result in some operators leaving the taxi industry due to a desire to not serve the other than airport taxi markets. As these permitted operators leave or retirements take place, these airport taxi permits should not be replaced, thereby allowing a better balance of supply and demand.

Once this process has been implemented for two years, it is recommended that the airport market permitting process be reopened to all San Antonio taxi operators wishing to participate but and that the number of days each taxi operator would be permitted would depend upon the total number of taxi operators wishing to participate. For example, if all operators want to participate (not necessarily a bad thing) then each operator may be permitted to serve the airport one out of five days, thereby balancing supply and demand. The airport can and would put out a general call for all taxis should there be a peak time when more taxis are required than those currently working the airport that day.

This recommendation would substantially lessen the number of taxis each day at SAT and thus, significantly reduce the waiting time. This would make it possible to eliminate the minimum fare from (and to) the airport since taxis could immediately get back in line for a short wait until their next pickup. This would also significantly reduce the pressure on the taxi holding lot's bathroom facilities and their cleaning. In the long run, SAT should consider adopting a strategy of allowing only taxicabs which drop off a passenger at the airport to get into the taxi line thereby encouraging two way loaded traffic to and from the airport. Such would definitely improve the economics of the taxi operation and spread the airport business among all the drivers.

Increasing Airport Departure Fee

The current airport departure fee is $1.00 per passenger which the taxi driver is able to pass along to the customer. We are recommending that this be increased to $2.00 (which is still below the national average for larger tourist oriented airports) and these this additional funds be utilized for taxi holding lot amenities and improved taxi signage as per the Aviation Director's discretion.

Company/Vehicle Technology Requirements

Require all San Antonio taxi companies or consortiums to utilize above referenced taxi technologies to report quarterly on all taxis dispatched, including, but not limited to, the number of all meter trips by vehicle, by driver, by time and date. The current ordinance requires lease and other financial reporting but this operational data must be collected and analyzed if the appropriate number or permits are to be issued on a fair and equitable basis of who adds the most value to the city's taxi permit.

All taxi drivers approved for driving a taxi within San Antonio should be required to accept an ordinance mandated GPS closest computerized call from their dispatch just the same as they accept hail or stand walkup customers.

City Technology Requirements

Just as the taxi companies and consortiums must update their data processing abilities, so must the City of San Antonio. Currently taxi driver, vehicle and company data is maintained by the City on spreadsheets and various Excel databases. The City needs to develop a comprehensive database management system for the regulation of its taxi and other ground transportation systems. While not overly expensive, such data based management systems for the taxi industry can be expected to cost approximately $25,000 spread out over a period of years.

Driver Appearance and Qualifications

Each taxi company and consortium is presently required by the City to develop a dress code that identifies that driver with the company or consortium. This dress code is required and should be enforced by the City. Such a dress code need not be a uniform, but a requirement that each taxi company or consortium enforces a city ordinance that each taxi driver have a proper customer appearance representing the taxi company they are driving for.

Currently, City of San Antonio taxicab regulations require that taxicab drivers possess a state driver's license and apply for a City driver's license. The existing ordinance requires that the applicant for a city's taxicab driver license be able to speak English and pass a test as to the streets and byways of the City of San Antonio. Furthermore, a complete background check is performed on the applicant's criminal and driving record and a comprehensive defensive driver's school is required.

Thus, compared to similar cities and their requirements for taxicab drivers, San Antonio is, on paper, doing what most other major cities do with regard to the screening and vetting of potential taxicab drivers. What appears unusual is the minimum age of 18 to be a driver of a commercial taxicab and the lack of any driving experience either in the State of Texas, or, the especially, the City of San Antonio.

Therefore, the only significant recommendation that could be made is for the City's GTU unit to reevaluate the degree of difficulty of their English speaking test, add a requirement that drivers must also be able to read English, and that these drivers have a minimum of one year's driving experience in San Antonio. This minimum driving time in San Antonio could be verified by a State driver's permit and proof of local residence for at least one year.

Hybrid Vehicles

Hybrid vehicles are a natural choice for taxicab companies and drivers when the price of gasoline stretches into the $3.00 to $4.00 range. When an owner-operator or a taxi leasing company considers a vehicle, the cost of daily fuel is a large consideration. When fuel prices are in the $2.50 - $3.00 range, an older, perhaps used state police car or rental fleet vehicle in the case of fleet operators, is the preferred option, given the useful life of the vehicle and the daily

operating costs. However, the general industry experience, especially in Canada where the cost of gasoline has been considerably more than in the U.S., many Canadian taxi operators have opted first for CNG cars and now electric hybrids in the way of the Toyota Prius.

In the United States, in cities like Denver, Colorado, taxi fleet owners could not add hybrid taxis fast enough for their lease drivers who were willing to pay $25 more per day for these vehicles when gasoline prices were above $4.00 per gallon. Also, in California, where gasoline prices are traditionally higher, taxi companies readily bid airport taxi concessions with all hybrid vehicles.

The implications for San Antonio are rather clear, that the use of hybrids should be left up to the industry and natural forces will untimely bring about the use of hybrid taxicabs. Indeed, there are numerous hybrid taxicab vehicles on San Antonio streets due to past efforts to provide permits for those wishing to utilize hybrids. However, this program has achieved its goals and there is no further need for such a stimulus for the use of hybrids. This program should be discontinued. Newer, very low emission engines of most automobiles sold in the Unities States meet or exceed carbon emissions of electric hybrids when the source of emissions is taken into consideration.

Accessible Taxicab Permits

As previously noted, the current practice of issuing a minimum of one accessible taxicab permit to each company or to existing permit holders that wish to add to their fleet has resulted in more than enough taxis to serve existing and future demand for accessible cabs. And, as noted elsewhere, there are approximately 200+ more airport taxis than demand requires. Thus, this program of issuing additional accessible taxi permits should be discontinued.

Taxi Permits

A final set of recommendations is for taxi permits within the City of San Antonio. As shown, there is an oversupply of taxis that serve the airport and downtown hotel markets. The recommendation then is to limit access to the airport holding lot which will force the oversupply of taxis into the community, thereby increasing capacity for other trips. If their dispatch

consortiums can generate additional trips and develop other prearranged taxi business, these drivers will be able to increase their overall income. They will earn substantially more – mostly double what they currently earn per day when it is their turn to work the airport and some additional income over their present income when they work non-airport market segments.

Some taxi drivers may voluntarily choose not to work in the revised airport system and leave the industry. Individual permit owner operators who leave the industry should be required to turn in their taxi permit to the City and the City should not reauthorize this permit thereby letting attrition reduce the total number of taxi permits within the City of San Antonio that primarily serves only the airport and stand markets. There will be a need to temporarily increase the number of downtown taxi stands but only for awhile. Technology in the form of cell phone apps to summon a close by GPS taxi and the decreasing number of San Antonio taxis should lesson the demand for on street taxi stands in the future.

It is recommended that this process continue until 216 taxi permits are removed from the San Antonio taxi system serving the airport. This would leave the City of San Antonio with 652 taxi permits which is the appropriate number of taxis for the existing taxi demand. However, if the call/dispatch service achieves a greater demand through additional marketing or other efforts, there would be a need to add additional permits to this side of the San Antonio taxi demand.

Additional Taxi Permits & Transferability

Additional taxi permits may be required by the call/dispatch segment of the taxi industry but these permits should be issued on the basis of industry-supplied data on current utilization of their taxi permits. As a taxi company's or consortium's fleet is reaching it maximum capacity of 12 to 14 trips per shift, per taxi, then the ability to add additional vehicles and drivers may be requested by the taxi company or consortium. Or, if a major new service demand in the form of a contract for serving a school district or military base for example is attained, requiring a significant number of additional vehicles which would strain existing capacity and services, the taxi company holder or consortium should be able to request and receive additional permits.

Additional Taxicab Companies

As previously mentioned, the minimum size for a San Antonio taxi permit holding company should be at least twenty-five (25) vehicles. With the current number of smaller taxi companies in San Antonio, there should be no new taxi companies formed through newly authorized taxi permits. If existing taxi companies can demonstrate adequate use of their existing permits, defined as a minimum of 10 trips per day, per shift, per vehicle, then they should be permitted to be bought and sold as ongoing taxi firms adding value to their permits.

Further consolidation of taxi companies would be the result in the City of San Antonio reaching a state where there is "managed competition" among larger, better capitalized, and better dispatched taxi companies. This would mean a city where residents and tourists alike could easily summon a nearby taxi with the flick of their cell phone app and pay the lowest cost per mile that the economies of scale present in larger taxicab operations permit. It would also be a city where a limited number of taxi drivers would earn a respectable income for the hours of labor they endure behind the steering wheel of a taxicab.

Permit Fee Structure and Review Period

The current fees for taxicab holders and taxi driver permits should be reviewed and compared to actual costs of production. For example, while vehicle inspection costs per vehicle appear adequate and near the median of that charged by other cities, the driver permits, renewals, and transfers of $10 to $17 are less than comparable to other cities. For most of these driver related activities, the fee should be $25 per occurrence.

A major problem within the fee structure is the time it takes for background checks - 40 to 60 days. This would appear to be an abnormal amount of time required to perform standard background checks on U.S. citizens. If at all possible a preliminary police background check might be performed that would clear applicants who have lived most of their lifes in San Antonio and/or can have their criminal and driving records checked at the state level which should be a substantially shorter period of time. Others, including foreign nationals, would, of course require a longer period to process.

The citywide taxicab operating permit charge of $440 per year represents a revenue stream of $386,320 per year, which is the main source of support for the GTU unit. Through these revenues and others listed above, plus fines, it should be a policy of the City that the GTU unit be self-sufficient, and if additional funds are required to enforce the City's Code 33, then operating permit fees should be raised to cover budgeted costs.

The City of San Antonio should also remove this task of collecting these fees from the code enforcement group, GTU, and place it accordingly in the area of city government responsible for the collection of general fees, fines and taxes.

The total costs of current regulatory costs should be reviewed annually along with the number of permits required by San Antonio's taxis. The process for determining the number of taxi permits to issue is laid out in Appendix D – Determining Taxi Permits by Actual Data. Using industry data on number of trips per vehicle per shift per day, GTU personnel will be able to access the actual demand for current taxi fleets and whether additional permits are warranted. As illustrated, San Antonio's taxi fleets should be able to reach 12 to 14 trips per shift before having to add additional capacity.

Finally, the issuance of a taxi company holder permit to companies of 7 vehicles or more should be deleted from the City's ordinance and replaced with the number of 25 as the minimum number of taxis that can be associated into a taxi company holder permit.

Taxicab Insurance Requirements

Per the 1993 report on taxicab insurance levels, the City of San Antonio and all of Texas has one of the lowest requirements for taxicab insurance of any state in the union. The City should require raising their taxi insurance requirements to $50,000 per occurrence, $150,000 per individual, and $300,000 total liability.

Need for Additional GTU Personnel

A further recommendation is being made for the addition of at least one full time individual to assist the GTU with additional duties that are contained in recommendations for both the taxicab and the carriage industries. There is the obvious need to have someone from

GTU actively supervising the on demand carriage rides at the primary pick-up and discharge point – the Alamo. There will also be the need for GTU to develop RFP's for both walk up and prearranged carriage rides and to monitor these additional carriage providers. Finally, there will be a need to develop and implement new taxicab management software to read the data files submitted quarterly by the four taxi dispatch companies. Taken together, these activities will require the services of at least one additional full time person.

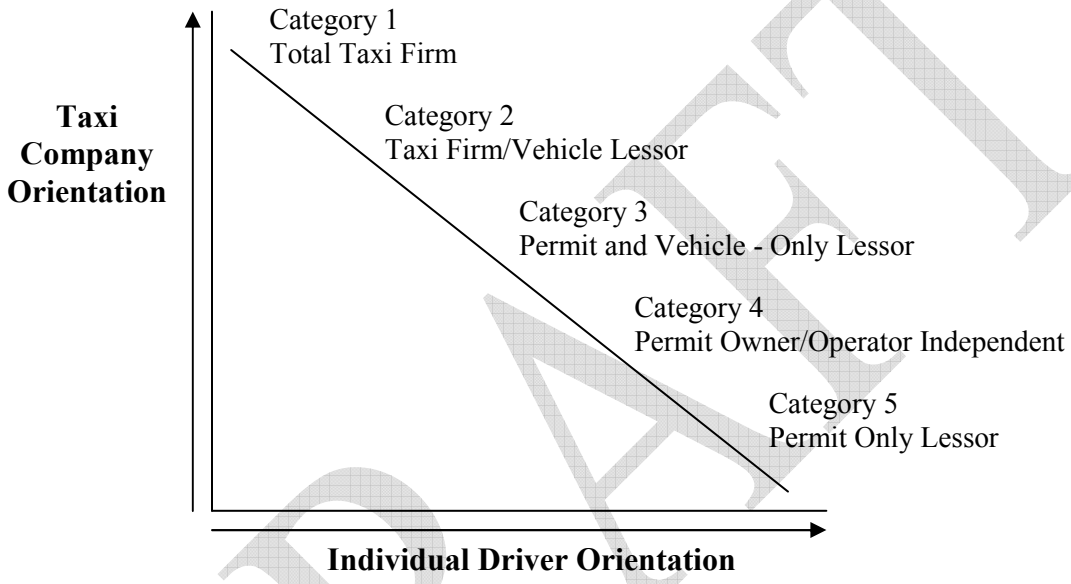
Phased Implementation

As with any set of recommendations, to significantly change an industry, everything can not be done overnight. These recommendations should be phased in over a period of two years with a firm start date of January 1, 2011.

APPENDIX A
Detailed Explanation of Types of Taxi Companies

Figure 1

Continuum of City Taxicab Firms



At the top of the above slope, Category 1 represents the total taxi firm or to some, the historical taxi firm. In this category, a taxi firm has a physical facility from which to conduct it dispatching and vehicle maintenance. A full service taxi firm also provides drivers (as employees), significant advertising, comprehensive radio dispatching, insurance, and fleet maintained vehicles. Moreover, this type of taxi firm provides for collective agreements with major clients or social service agencies, accepts credit cards with no additional charge, and represents a firm that stands behind its service -- often trying to differentiate its service from the competition. These firms accept all major credit cards, establish voucher systems with hotels, airlines for group rides, and often pre-sell their services to conference and convention groups. Only a few major cities currently have this type of full service taxicab firm utilizing employee drivers. Las Vegas is the notable exception to this generalization due to its orientation toward the famous "Vegas Strip" and state regulations.

Competitive pressures, federal and state laws regarding employees, and industry interests have forced the elimination of taxi drivers as employees in most other major U.S. cities. In their place are the less costly independent contractors or lease drivers (Category 2 in Figure 1). At this level the taxi firm retains all the service and obligations of its former common carrier status, i.e., insurance, vehicle ownership, radio dispatch, service agreements, etc., but elects to lease its fleet vehicles to independent contractor drivers.

These lease arrangements can be a straight lease of so much per 12-hour shift, by the day, or by weekly leases. A common form of the lease arrangement is the commissioned driver, where the revenue from the vehicle is split with the driver after gasoline and tolls are deducted from the total. With the commission or split arrangement, total taxi companies are acting in their own best interest by putting only the number of taxi vehicles out on the street as necessary since they maintain the vehicle and would receive no additional revenues if they oversupplied the market. The taxi driver benefits by staying busy and earning the maximum amount possible given the time he/she is leasing the vehicle.

Unfortunately, it is common practice for these independent drivers to decide whether or not to take radio or dispatched trips as they are presented. Attempting to protect their status as "non-employees, the taxi firm dispatchers offer the telephone request for taxi service to the independent driver and if refused the dispatcher typically moves onto the next driver willing to take the call. Usually the dispatch offer for business is taken but not always, leaving some trips uncovered. In order to maintain the non-employee status, it is often felt that the taxi firm dispatchers cannot order a driver to take any particular call.

While there is economic gain to the traditional taxi firm to move to Category 2, (e.g. no employee taxes, wages, EEOC, paternity leave, vacation or sick days, employee lawsuits, liability for driver accidents, or record keeping), there can be a noticeable loss of managerial control. As stated above, a driver does not perceive that he or she has to accept a radio dispatched call, but rather can elect to wait for a better fare. This poses a problem for the typical municipal taxi firm, which is required by its original Certificate of Convenience and Necessary to accept all requests for service. This is particularly relevant to out-of-the-way locations and/or high crime areas which are often undesirable trips, for obvious reasons.

Category 2 also shifts the decision of hours of work onto the driver, since after leasing the vehicle for a prescribed period, he/she has the option to work none, some, or all of the hours for

which the taxi vehicles is leased. The resulting behavior has led cities to pass ordinances or rules which state the maximum number of hours a taxi driver can be on duty out of 24 consecutive hours.

Under the split commission approach to drivers, full service taxi company officials, realizing the potential loss of revenue from their portion of the revenue split, are generally not interested in continuing to lease vehicles to individuals that prefer not to take dispatch calls unless they are good fares.

A further variation of a Category 2 taxi firm is when management decides to also eliminate its ownership of the taxi vehicle. In addition to being an independent driver, the individual wishing to drive a taxi for this type of taxi firm must provide a suitable taxi vehicle to use. This vehicle is then painted in the colors of the taxi firm and fitted with a taximeter which the driver typically rents from the taxi firm.

Such "asset light" operations are also common in other service industries where the service is provided by an independent contractor. Most trucking firms do not own their own trucks, but rather pay an independent truck driver that provides both his/her labor and a truck. The issue in the taxi industry, however, is the ongoing condition of the taxi vehicle and overall appearance. In many instances, the management of the taxi firms might seldom see these vehicles that are flying the company's taxi colors. In Category 2 however, the taxi firm still provides all the company functions of a Category 1 – marketing, dispatching, credit card processing, corporate clients, etc.

In smaller operations, a limited version of a Category 2 firm may initially operate as a home based business, but then as the company grows, it typically expands into its own facility, either by zoning regulations or the need for additional space and a place to interact with drivers and 24-hour dispatchers.

A level down from the company orientation to that of the driver orientation of the taxicab firm is represented above by Category 3 -- *Permit and Vehicle-Only Lessor*. It is often difficult to distinguish a Category 2 taxi firm from a Category 3, but in this scenario, a single individual, acting in name only as a taxi firm, will lease his/her taxicab permit(s) and vehicle(s) to independent contractor drivers. Typically, such an individual or firm provides very little or no dispatching and no marketing, other than perhaps a listing in the Yellow Pages of the local phone company. Today, this is possible because almost all drivers have cell phones for use with regular patrons. In addition, the drivers may be connected through a common cell phone system that lets them easily reach one another to see who can take a call for service. Typically, such operations are comprised of ten or

fewer vehicles in what is referred to as a "spider" network – trading customer calls to cover their demand. In summary, this Category 3 taxi firm would offer no real coordinated 24-hour radio service, advertising, or service contracts, credit card, or voucher support.

In recent years there appears to be a hybrid type of taxi firm that is both Category 2 and 3. That is, they have certain vehicles that they lease for general use within the community. These vehicles take dispatch calls and participate in corporate client business and other clients of the taxi firm. Such a firm may also have "airport only" cabs for lease or lease their permits to individuals that want to bring their own vehicles but want to serve only the airport. These operators are often referred to within the industry as "airport commandos" since they serve only the airport and whatever personals they may be able to secure. Typically, the lease fee for these airport-only cabs will be considerably less than that of the general community use cab. Due to the wait time at the airport, it is typical for the general community use cab to not participate in airport traffic unless called for a prearranged pickup, or when there is just no other business available.

The Fourth Category on the continuum of taxi firms is that of the single permit owner/operator. In a Category 4 firm, the holder of the permit is also the driver. This driver typically does not have availability of radio dispatch and/or service contracts with hotels and is forced to work the public cabstands, primarily the airport, and any "personals" he/she may develop. In this scenario, the taxi driver is an independent driver contracted mainly to the city or airport or both. Thus, the airport or the city becomes the de-facto personnel department for these drivers. The city's or airport's responsibility is to screen drivers (issue a permit), manage their conduct (require that they follow the taxi ordinances), and discipline them when necessary (issues citations/violations).

Furthest away from the traditional regulated taxi firm is Category 5 -- *Permit Only Lessor*. In this scenario the holder of city or airport permit simply pays the city an annual fee for the permit privilege and then either drives a single vehicle himself or leases it to the independent taxi driver who must provide his own vehicle, insurance, maintenance, etc. associated with operating a taxicab. Nothing else is provided. In essence, the permit holder provides no additional economic value to the permit other than to lease it to a city-licensed taxicab driver and inspected vehicle. This category's firms are comprised often of what the industry refers to as independent owner-operator, medallion drivers.

In this scenario, the city or airport again assumes the role of being the personnel department for the independent taxicab drivers. Often these drivers will join driver associations for the purposes

of purchasing insurance and/or furthering their desires for increases in taxi fares and community support for the taxi drivers.

As shown, this continuum of taxicab firms ranges from the total taxi firm which adds significant economic value to the city's taxicab permit, down to that of a simple permit holder who leases a city property (the taxi permit) to the highest bidder. At the upper end of this continuum, the total taxi firm is adding significant value to the community permit, using their own employees or commissioned drivers which they manage themselves. As we move toward the concept of the independent driver who owns his/her own vehicle, the community and/or airport inherits a much greater role in the management of these taxi drivers on a day-to-day basis.

Unfortunately, most city regulatory systems are set up as if we still had either Category 1 or Category 2 taxi firms and, as such, they assume very little management role of the taxi drivers at first, but over time, through issuance of driver's permits, vehicle inspections, daily citations for violations of city/airport taxi ordinances, etc. the Board becomes the day-to-day management of the community's taxi operations. This framework is an appropriate template upon which the City of San Antonio's taxi firms can be placed.

APPENDIX B
Taxi Deregulation Results in Other Cities

The failure of the U.S. taxicab industry open entries deregulation is well documented. Dr. Sandra Rosenbloom of The University of Texas, and Dr. Roger Teal if The California State University have separately concluded that taxi deregulation has failed to demonstrate any substantial benefits to drivers, taxi firms, or users.[2,3] Dr. Paul Dempsey, in summarizing the empirical data from these researchers' studies and other commissioned studies[4], listed the results of taxi deregulation in 21 major U.S. cities prior to 1983. These were:

1. A significant increase in new entry;
2. A decline in operational efficiency and productivity;
3. An increase in highway congestion, energy consumption and environmental pollution;
4. An increase in rates;
5. A decline in driver income;
6. A deterioration in service; and
7. Little or on improvement in administrative costs.[5]

Other notable authors having once advocated taxi deregulation by removing the maximum number of cabs authorized to provide service and recognizing a single owner/drivers as a cab company have since changed their minds based on the empirical evidence and the failure of their own recommendations.

> "The taxicab industry has undergone significant changes in the last decade or so. It passed from a regulated industry to a deregulated one in many cities and municipalities and back again to the regulated environment. A lot of economists who were arguing that regulation causes perverse effects on taxicab industry performance have changed their minds after having observed this industry operating without entry and fare regulations and have invoked back the regime of regulation."[6]

An entry proponent of taxicab deregulation, Professor Teal writes:

---

[2] Rosenbloom, Sandra The Taxi in the Urban Transport Systems, The Private Challenge To Public Transportation (Charles Lane, ed., 1984)

[3] Teal, Roger & Berglund, Mary, The Impacts of Taxicab Deregulations in the U.S.A., Journal of Transportation Economics of policy, Volume #37, (Jan. 1987)

[4] Dempsey, Paul Stephen, " Taxi Industry Regulation, Deregulation & Regulation: The Paradox of Market Failure" Transportation Law Journal, University of Denver, College of Law, Denver, Colorado, Volume 24, #1, Summer 1996, p.102

[5] Dempsey, Op. Lite, p. 102

[6] Gentzoglanis, Anastassios, "The Taxicab Industry: Theoretical and Empirical Evidence from (De) Regulation," Proceedings; International Conference on Taxi Regulation, Montreal, U.S., 1992, p.57

> "By the late 1980's, the returns were in on the taxi deregulation experiences. These took two forms. The first was actual data on the post-deregulation experiences, obtained in part through studies sponsored by the U.S. Department of Transportation (Gelb, 1982; Gelb, 1983a; Gelb, 1983b; Teal et al., 1984). The second involved the responses of the local governments which had initiated the regulatory changes, namely continuation, modification, or abandonment of these policies.
>
> "Both analytically and politically, economic deregulation fared relatively poorly, particularly compared to the expectations of its proponents. The local governments which had adopted the most far-reaching forms of deregulation eventually either completely abandoned this policy or sharply scaled back the most significant features of deregulation. In addition, the only comprehensive empirical study of the deregulation experiences came to the conclusion that the benefits of deregulation were "insubstantial" in most locales (Teal and Berglund,1987). While some economists continue to argue on theoretical grounds for deregulation, apparently not willing to concede to the empirical evidence (Frankena and Pautler, 1984 is an early example; Travers Morgan, 1988 a more recent example), the political debate appears to be largely over. **No large American city has deregulated its taxi industry during the past several years, and the issue has essentially disappeared from the active urban transportation policy agenda."**[7] (Original citing from 1992, but is still viable today.)

The deregulation and then re-regulation of taxicabs in the city of Seattle is indicative of the taxicab deregulation experienced by many major U.S. cities. James J. Buck, Manager of Seattle's King County Division of General Services, writes:

> "In 1979, the Seattle City Council adopted legislation which eliminated the population ratio as an entry limitation for taxicab licenses. You could license as many cabs as met the licensing requirements, i.e., application fee, insurance, inspected and approved vehicle and taximeter, approved name and color scheme, and approved ownership. At the same time, rates were whatever the licensee filed with the City, as long as the rate followed the prescribed form and was reflected on the taximeter.
>
> "Did the market regulate entry and rates? NO. Were there problems? YES. Rate gouging. Short haul refusals. Surly and discourteous treatment of passengers. Fights at cab stands at the Airport. Experiential data concerning accidents and safely became very damaging, impacting insurance rates and coverage. Government regulators were constantly barraged by industry complaints that "deregulation" wasn't working, they couldn't make any money, unsafe vehicles on the street, tension and animosity among drivers with the potential for violence, etc. Pleas for reviews were frequent.[8]

[7] Teal, Roger F., "An Overview of the American Experience with Taxi Deregulation" Proceeding IATR, Montreal, U.S., 1992, p. 123

[8] Buck, James J., "The Seattle U-Turn" Proceedings, International Conference on Taxicab Regulation, Montreal, U.S., 1992, p.141-142

By 1984, taxicab deregulation in King County was dead -- completely reversed with fixed limit on taxicab licenses.

By far the most comprehensive analysis of taxicab deregulation and re-regulation was prepared by Price Waterhouse's Office of Government Services.[9] Six U.S. cities which had deregulated their taxicab previously through open entry were examined in depth. The executive summary of this Price Waterhouse report concludes:

> "Deregulation introduced several immediate changes in taxi supply, price, and service quality in the six cities for which detailed case study information is available (Berkeley, Oakland, Phoenix, Portland, San Diego, and Seattle.) The experience of these cities generally indicates that the benefits of deregulation were devalued by unanticipated and unattractive side effects:
>
> > "Although the supply of taxi services expanded dramatically, only marginal service improvement were experienced by consumers. Within a year of deregulation, the supply of taxi services increased an average of 23%. Because most new entrants were independent operators and small fleet owners with limited capability to serve the telephone-based market, most new service was concentrated at already well-served locations -- such as airports and major cabstands. Customer wait times at these locations, already short, were reduced further. Response times in the telephone market were similar to pre-deregulation performance. **Trip refusals and no-shows, however, increased significantly.**
> >
> > "Prices rose in every instance. Paradoxically, the influx of new entrants did not invoke the price competition typically experienced in other newly-deregulated industries. **Prices rose an average of 29% in the year following deregulation.** There appear to be two sources of this unexpected event. First, fare increases prior to deregulation had consistently lagged cost increases. Veteran operators thus corrected prices at the first opportunity. Second, new entrants generally charged higher fares than the veteran operators. The cabstand markets on which these operators focused their services are generally price insensitive and, because of the first-in first-out nature of taxi queues, comparison shopping is discouraged. For these reason, the new entrants had no incentive to introduce price competition.
> >
> > "Service quality declined. Trips refusals, a decline in vehicles age and condition, and aggressive passenger solicitation associated with an over-supply of taxis are characteristic of a worsening in service quality following deregulation.
> >
> > "The negative aspects of deregulation were especially evident at airports and major tourist attractions. As a result, deregulation often acquired the enmity of the business community and adverse media coverage. **These effects were most closely associated with cities that implemented an "open entry" policy that enabled influx of**

[9] Analysis of Taxicab Deregulation and Re-regulation, Price Waterhouse, Office of Government Services, Washington, D.C., 1993

independent owner-operators that were unaffiliated with companies or taxi cooperatives.

The airport taxicab system might have an impact on low-income and residential users - the primary market for non-airport taxicabs. Professor Gorman Gilbert, one of the country's foremost writers on taxicabs and former Commissioner of the New York City Limousine and Taxi Authority writes the following:

> "The increase in taxicab fares in residential areas produces a particularly bitter impact on low-income persons. A major and increasing proportion of residential taxicab business originates in low-income or minority neighborhood….this is not surprising since residents in these areas are often dependent on taxicab service for mobility. These trips are for essential purposes, such as trips to grocery stores and medical factories. In contrast, the trips from airports and downtown hotel stands are made by persons who are clearly more affluent businesspersons, vacationers, and conventioneers.
>
> "Increasing fares to residential areas means that the impact of more taxicab is borne disproportionately by low-income persons. In other words*, those who can least afford to pay would be charged the most*... Those who follow the academic argument of 'letting the market decide' taxicab fares are really 'letting the poor pay more.'"[10]

[10] Gilbert, Gorman, Effect of Open Entry and Variable Fares on the Cost of Taxicab Service to Residential Areas, 1984

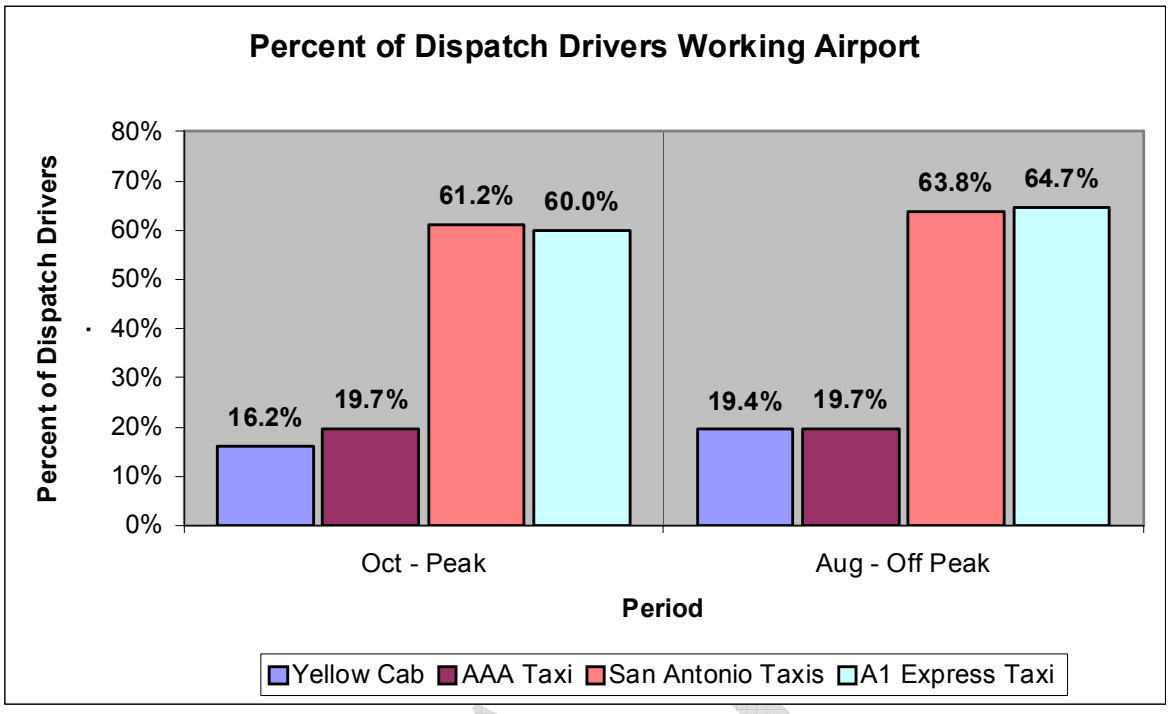
APPENDIX C
SAT Airport Statistics

Percent of Drivers Working Airport
(Off Peak - Aug 2009)

Dispatch	Number of Airport Permitted Drivers	Total Number of Drivers	% of Dispatch Drivers
Unknown	23	N/A	N/A
A1 Express Taxi	55	85	64.7%
AAA Taxi	15	76	19.7%
San Antonio Taxis	164	268	61.2%
Yellow Cab	182	937	19.4%

Percent of Drivers Working Airport
(Peak - Oct 2009)

Dispatch	Number of Airport Permitted Drivers	Total Number of Drivers	% of Dispatch Drivers
Unknown	41	N/A	N/A
A1 Express Taxi	51	85	60.0%
AAA Taxi	15	76	19.7%
San Antonio Taxis	171	268	63.8%
Yellow Cab	152	937	16.2%

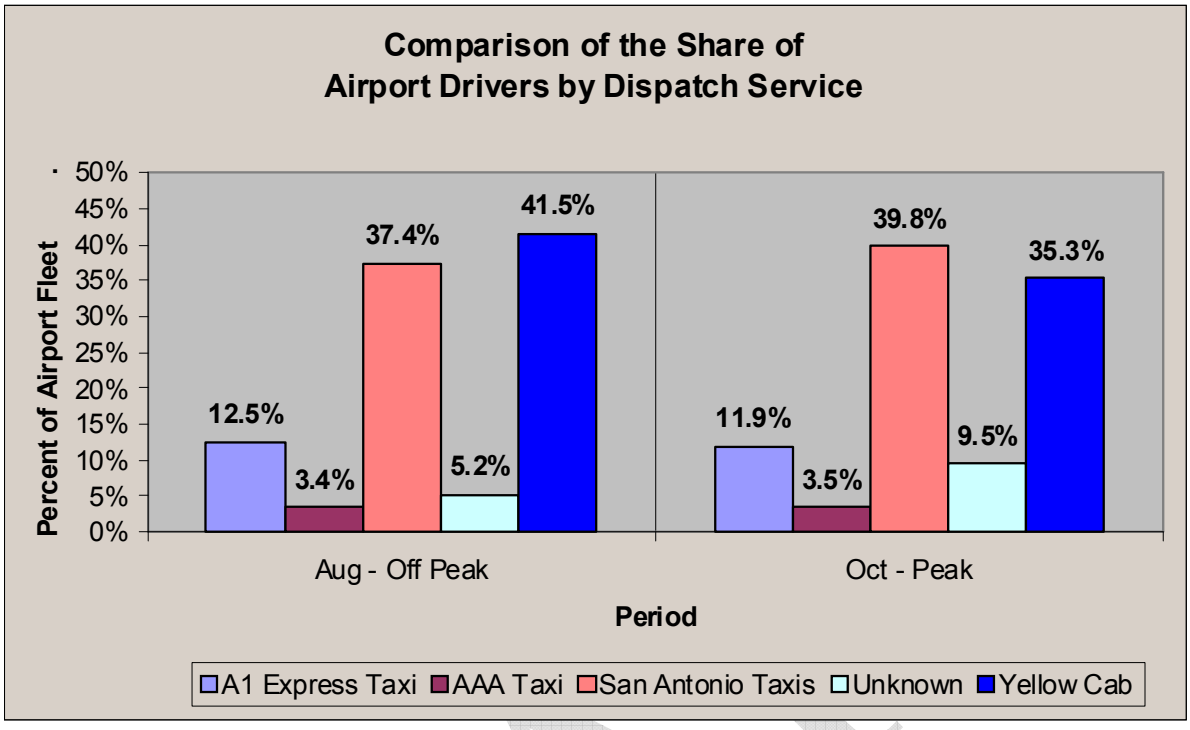


Distribution of Drivers
(Off Peak - Aug 2009)

Dispatch	Number of Airport Permitted Drivers	% of Total Airport Drivers
Unknown	23	5.2%
A1 Express Taxi	55	12.5%
AAA Taxi	15	3.4%
San Antonio Taxis	164	37.4%
Yellow Cab	182	41.5%
Total Airport Drivers	**439**	

Distribution of Drivers
(Peak - Oct 2009)

Dispatch	Number of Airport Permitted Drivers	% of Total Airport Drivers
Unknown	41	9.5%
A1 Express Taxi	51	11.9%
AAA Taxi	15	3.5%
San Antonio Taxis	171	39.8%
Yellow Cab	152	35.3%
Total Airport Drivers	**430**	



Distribution of Trips
(Off Peak - Aug 2009)

Dispatch	Number of Airport Permitted Drivers	% of Total Airport Drivers
Unknown	23	5.2%
A1 Express Taxi	55	12.5%
AAA Taxi	15	3.4%
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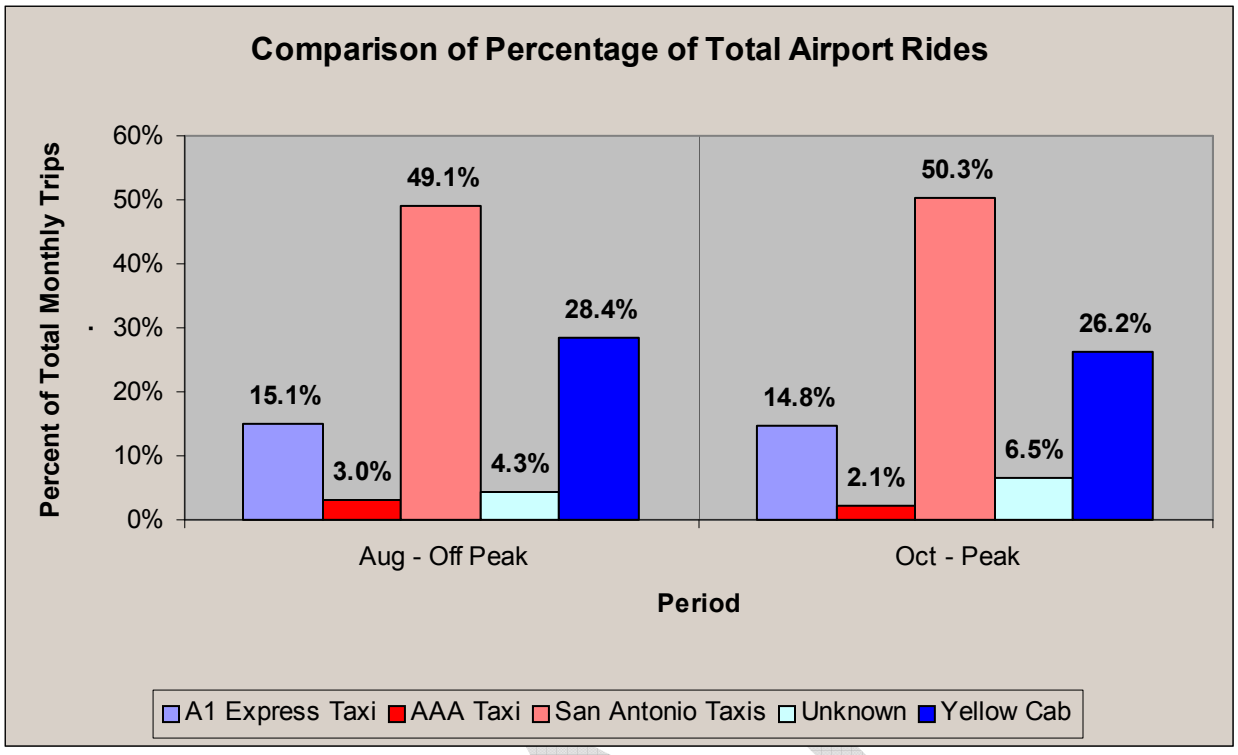
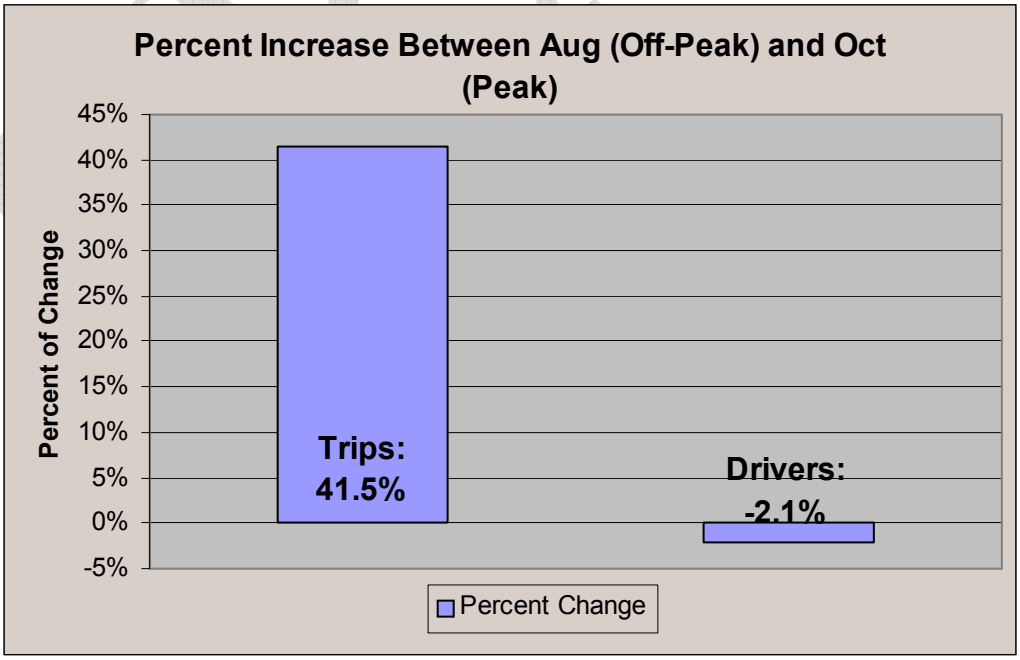
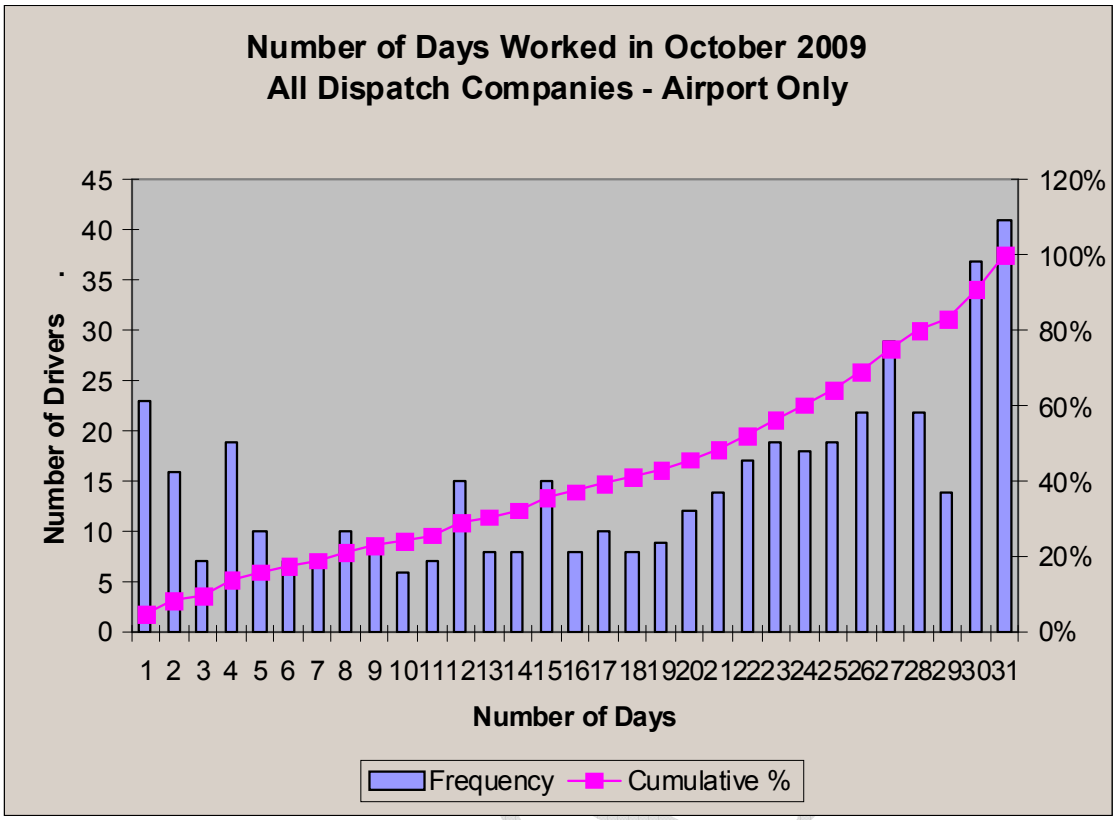
Yellow Cab	152	35.3%
Total Airport Drivers	**430**	

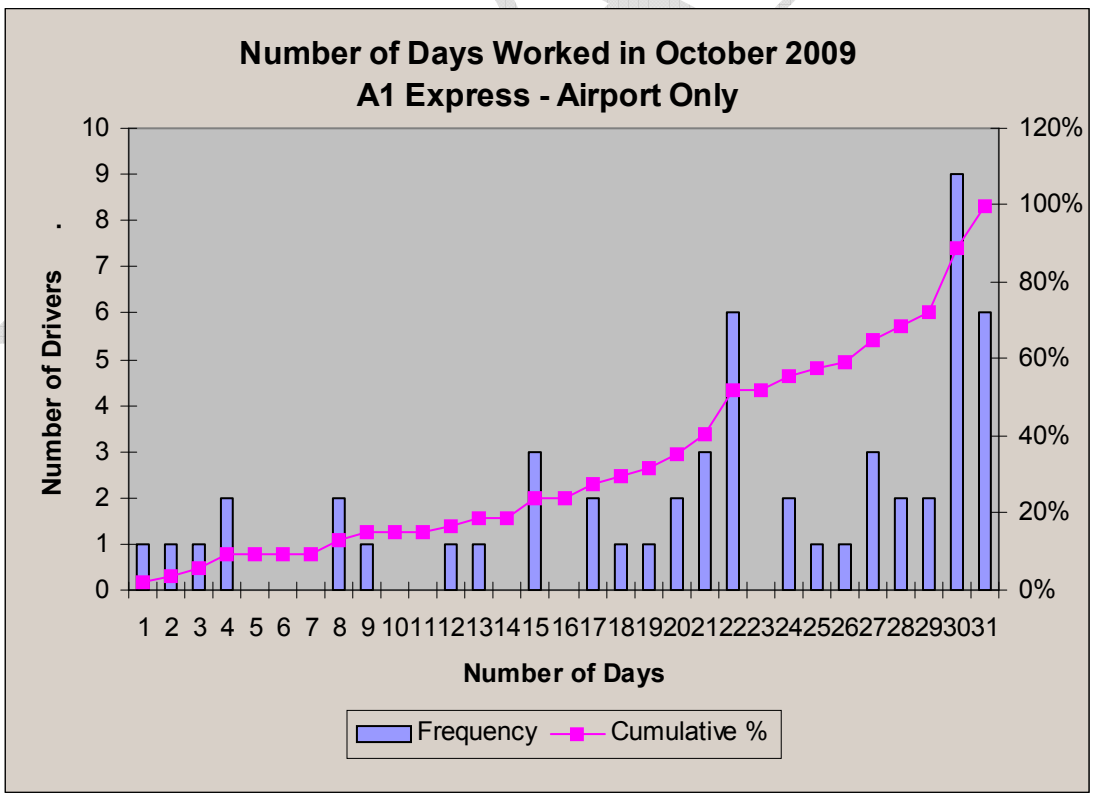


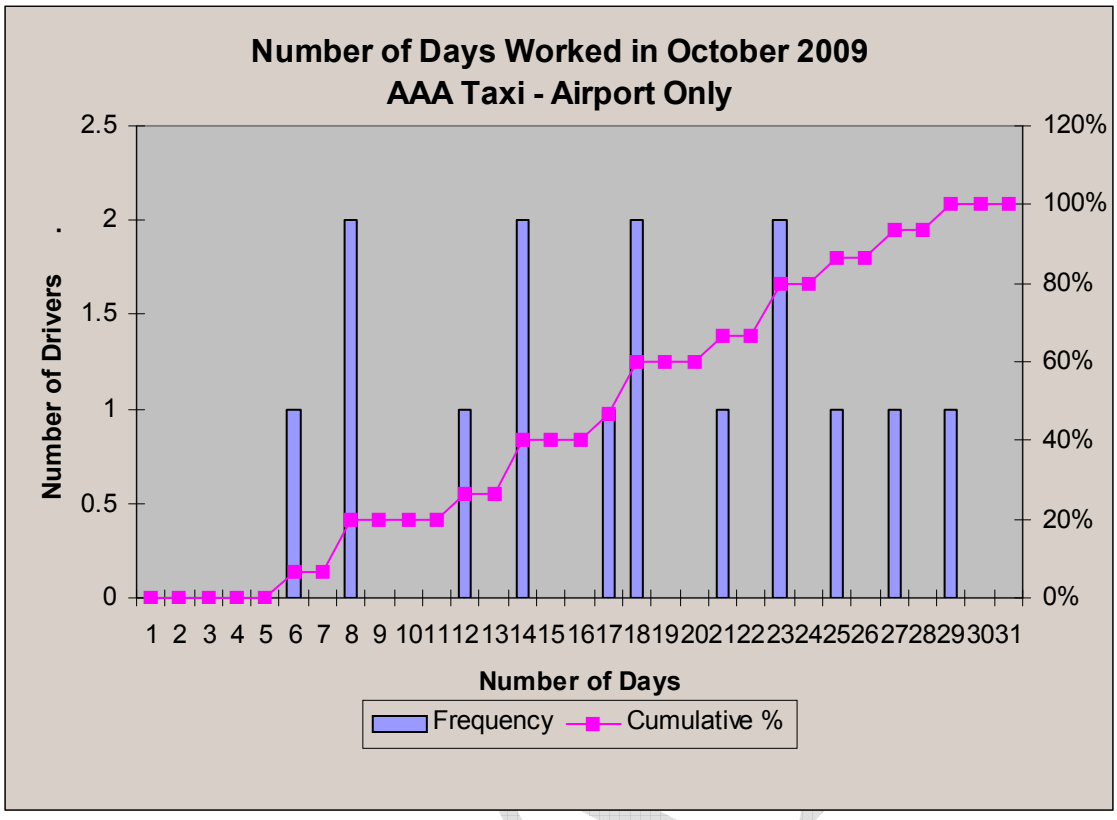
Percent Increase Between
Aug (Off-Peak) and Oct (Peak)

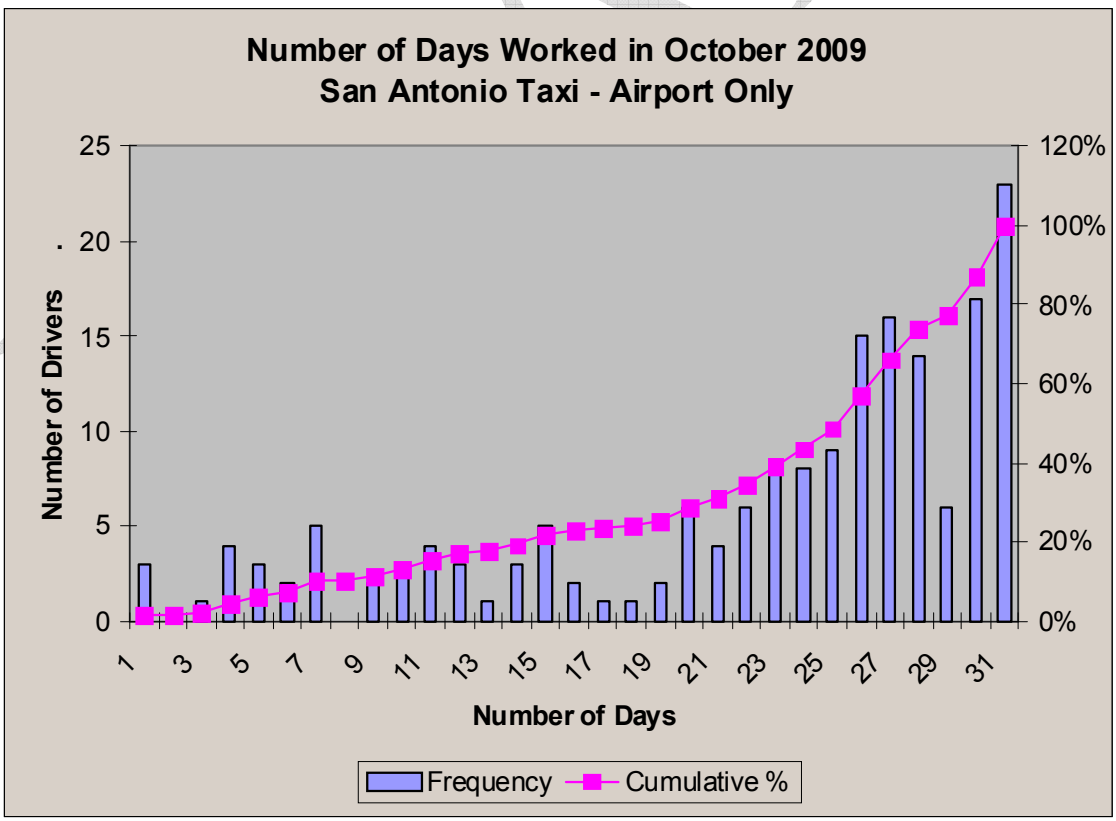
Airport trips: 41.5% increase
Drivers working airport: -2.1% decrease

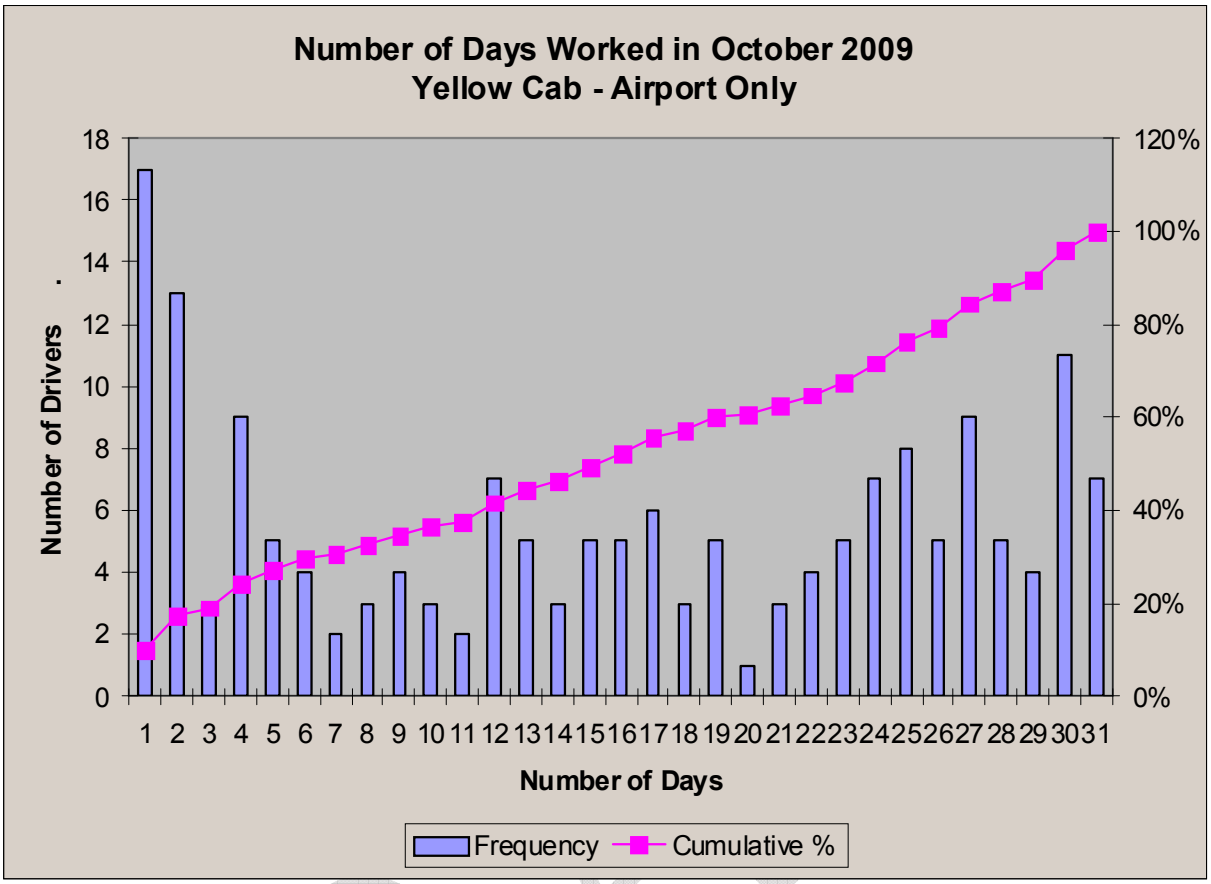


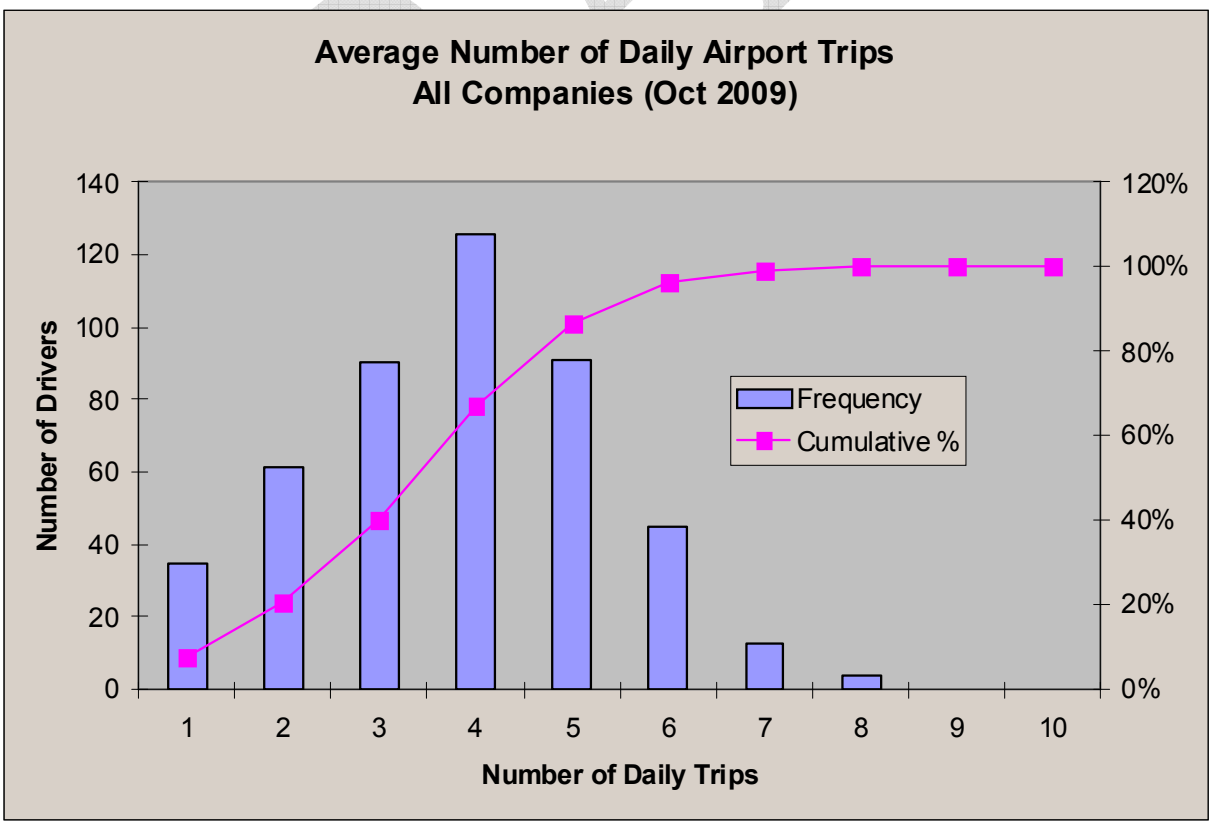

Number of Days Worked in October 2009
All Dispatch Companies - Airport Only
Number of Drivers
Number of Days
Frequency
Cumulative %

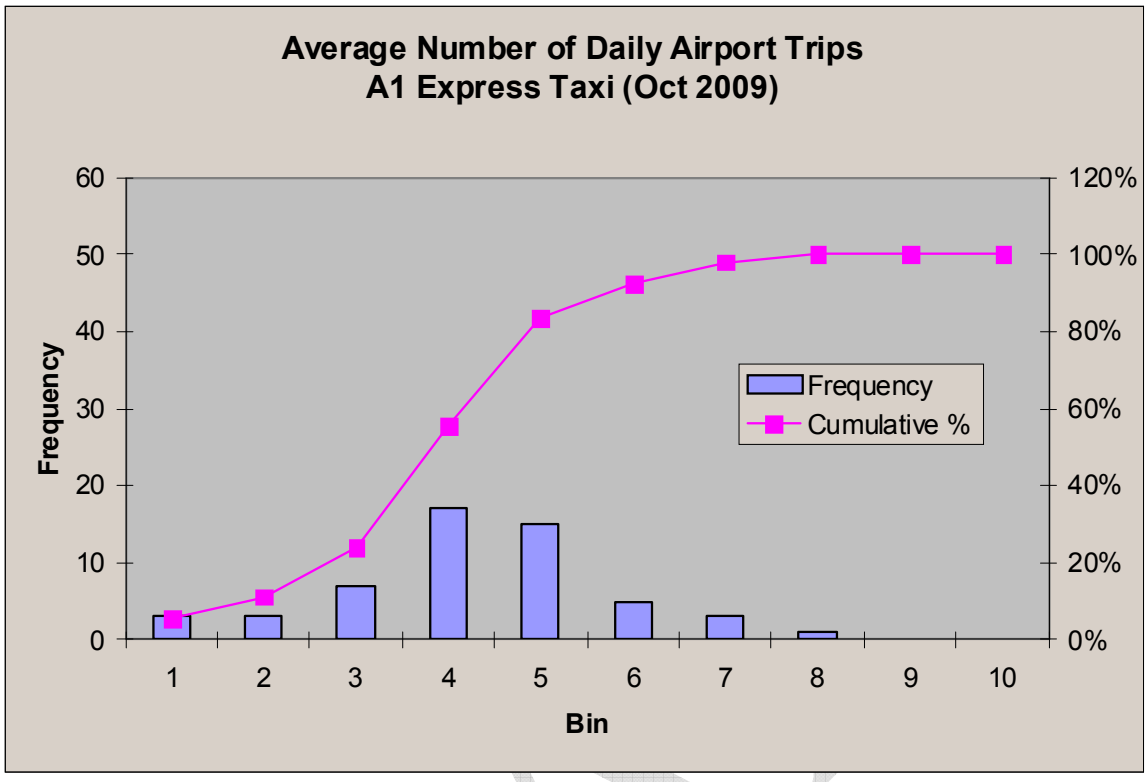

Number of Days Worked in October 2009
A1 Express - Airport Only
Number of Drivers
Number of Days
Frequency
Cumulative %

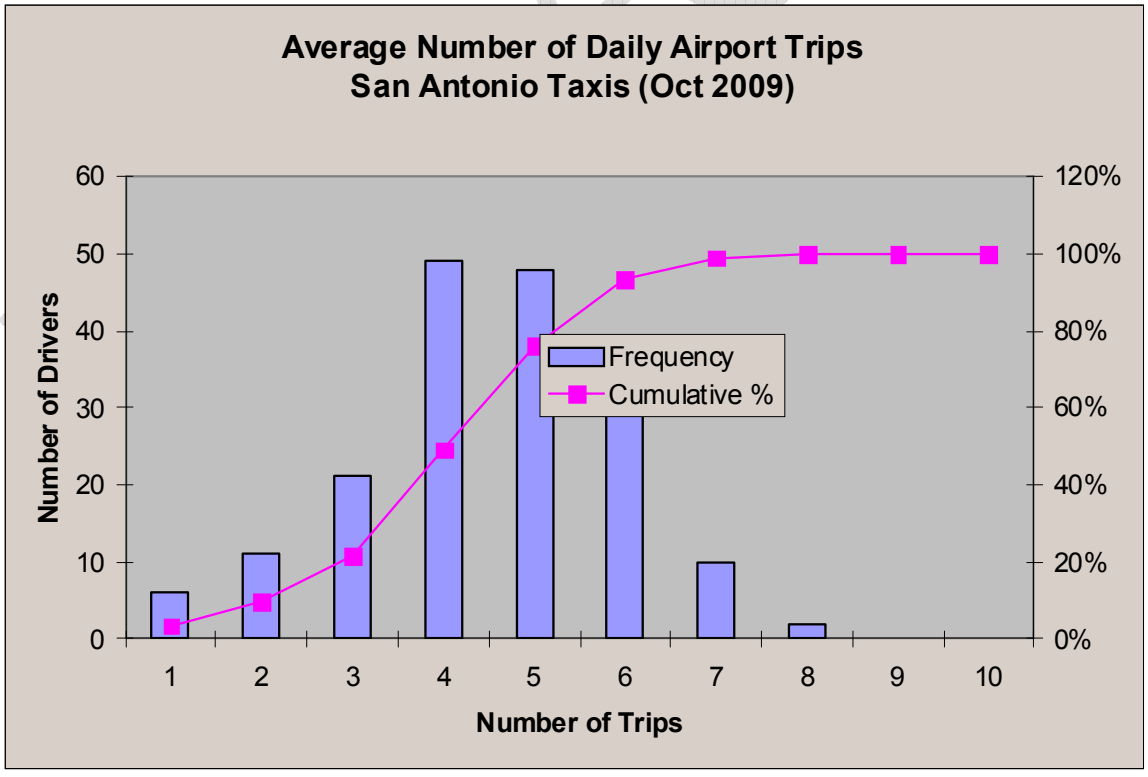

Number of Days Worked in October 2009
AAA Taxi - Airport Only
Number of Drivers
2.5
2
1.5
1
0.5
0
120%
100%
80%
60%
40%
20%
0%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Number of Days
Frequency
Cumulative %

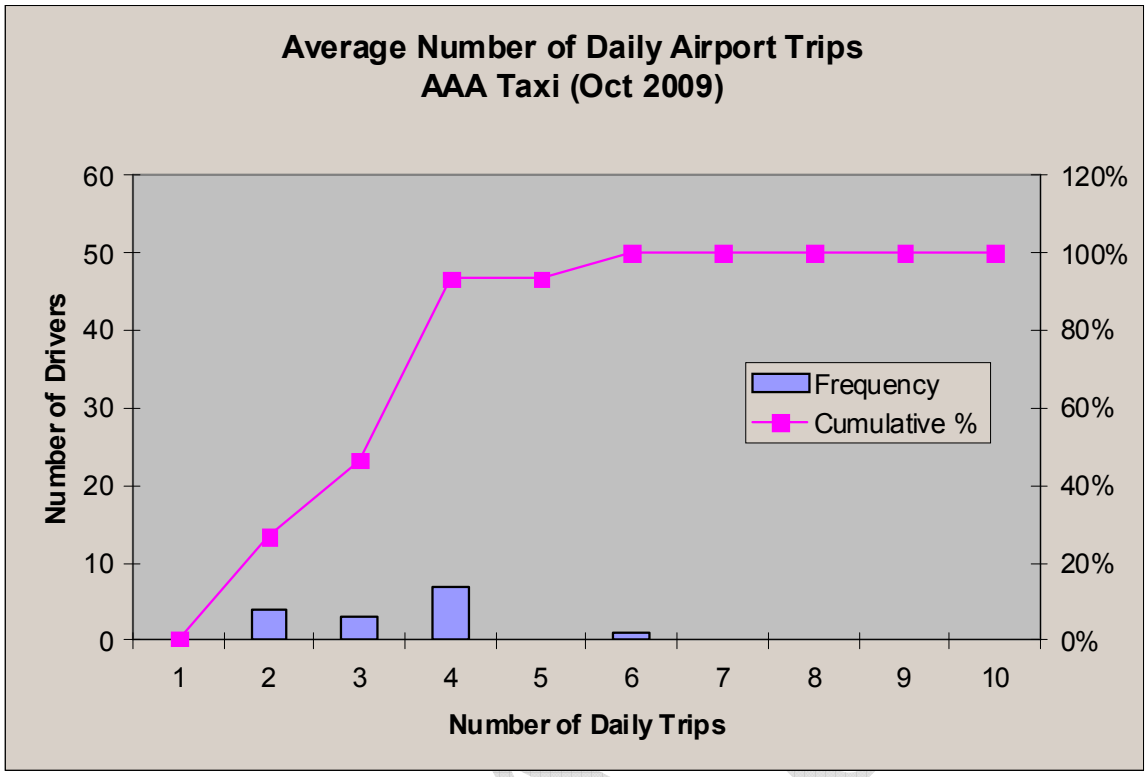

Number of Days Worked in October 2009
San Antonio Taxi - Airport Only
Number of Drivers
25
20
15
10
5
0
120%
100%
80%
60%
40%
20%
0%
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31
Number of Days
Frequency
Cumulative %

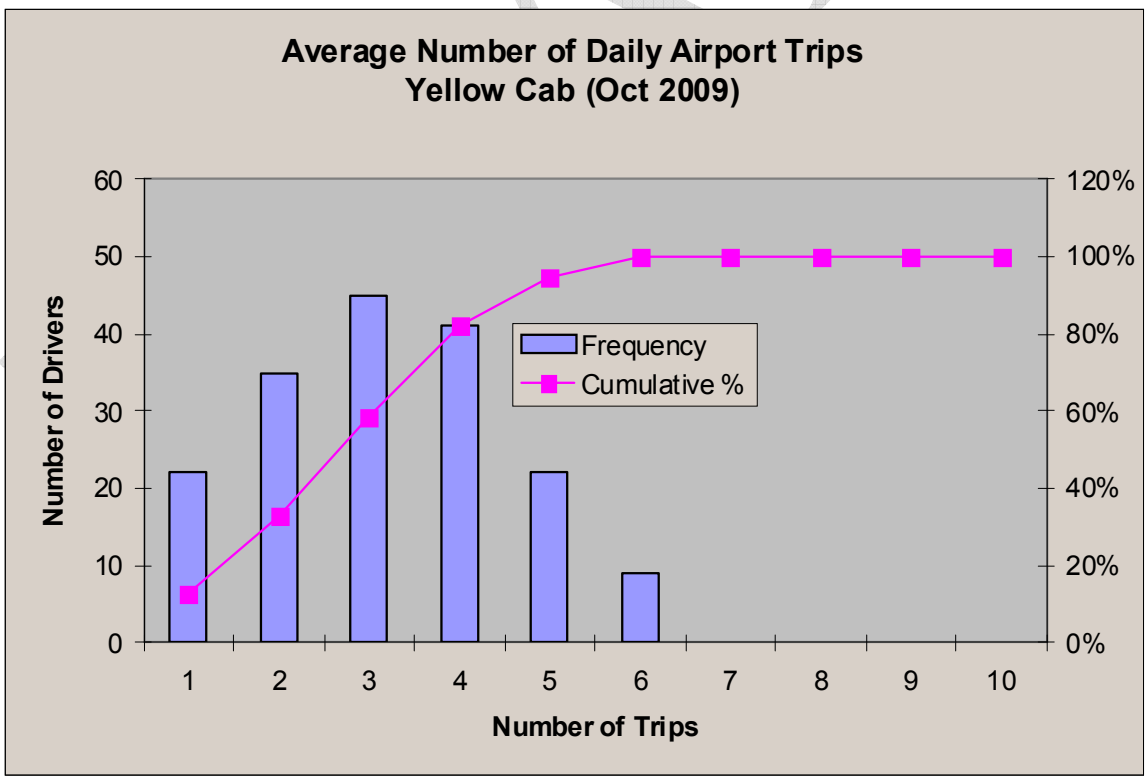

Number of Days Worked in October 2009
Yellow Cab - Airport Only
Number of Drivers
Number of Days
Frequency
Cumulative %

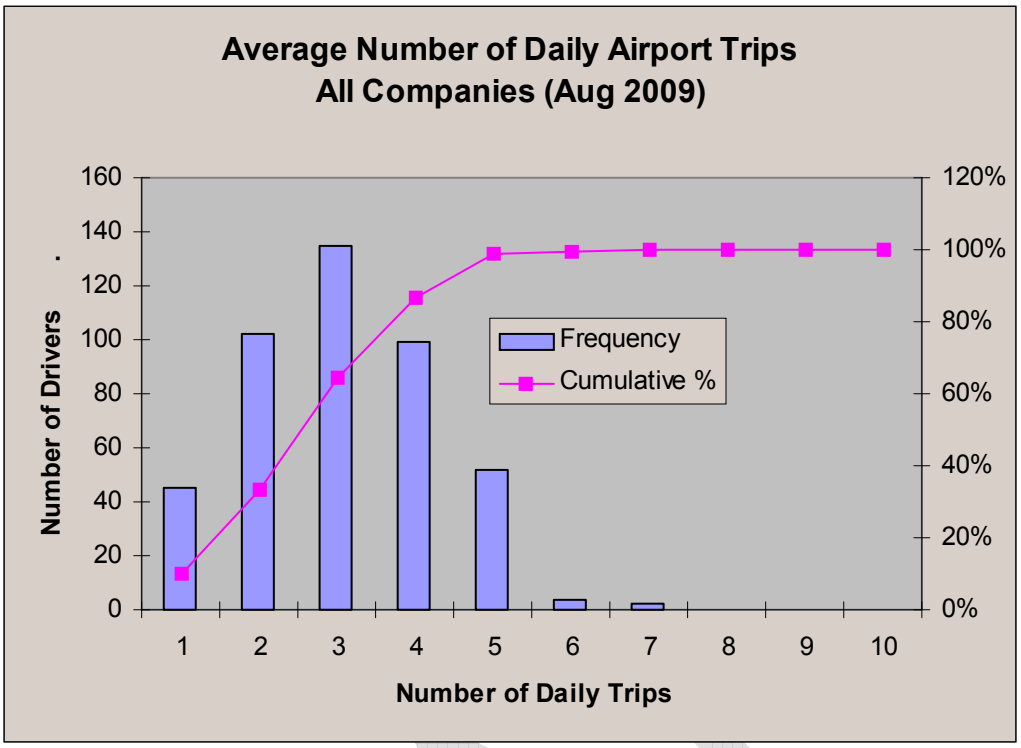

Average Number of Daily Airport Trips
All Companies (Oct 2009)
Number of Drivers
Number of Daily Trips
Frequency
Cumulative %

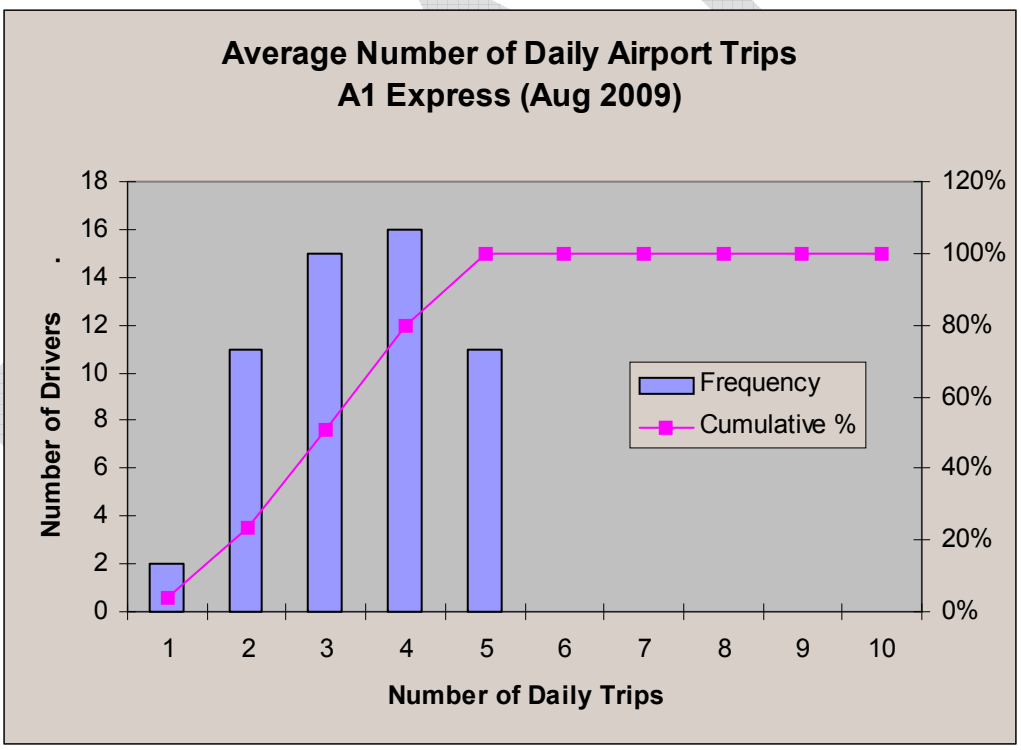

Average Number of Daily Airport Trips
A1 Express Taxi (Oct 2009)
Frequency
Cumulative %
Frequency
Bin
0
10
20
30
40
50
60
0%
20%
40%
60%
80%
100%
120%
1
2
3
4
5
6
7
8
9
10

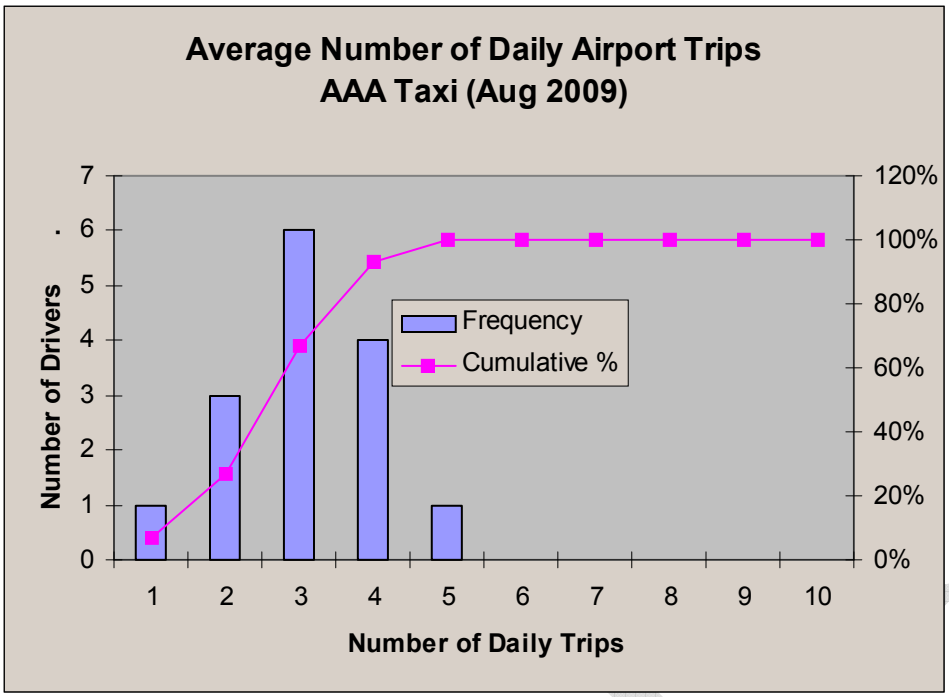

Average Number of Daily Airport Trips
San Antonio Taxis (Oct 2009)
Number of Drivers
Frequency
Cumulative %
Number of Trips
0
10
20
30
40
50
60
0%
20%
40%
60%
80%
100%
120%
1
2
3
4
5
6
7
8
9
10

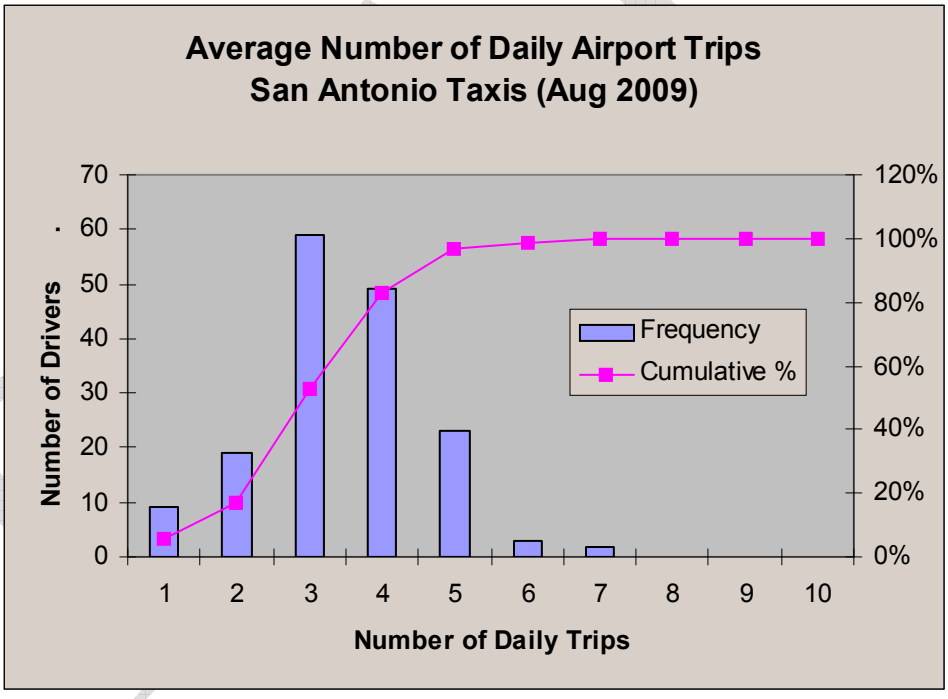

Average Number of Daily Airport Trips
AAA Taxi (Oct 2009)
Number of Drivers
Number of Daily Trips
Frequency
Cumulative %
0
10
20
30
40
50
60
0%
20%
40%
60%
80%
100%
120%
1
2
3
4
5
6
7
8
9
10

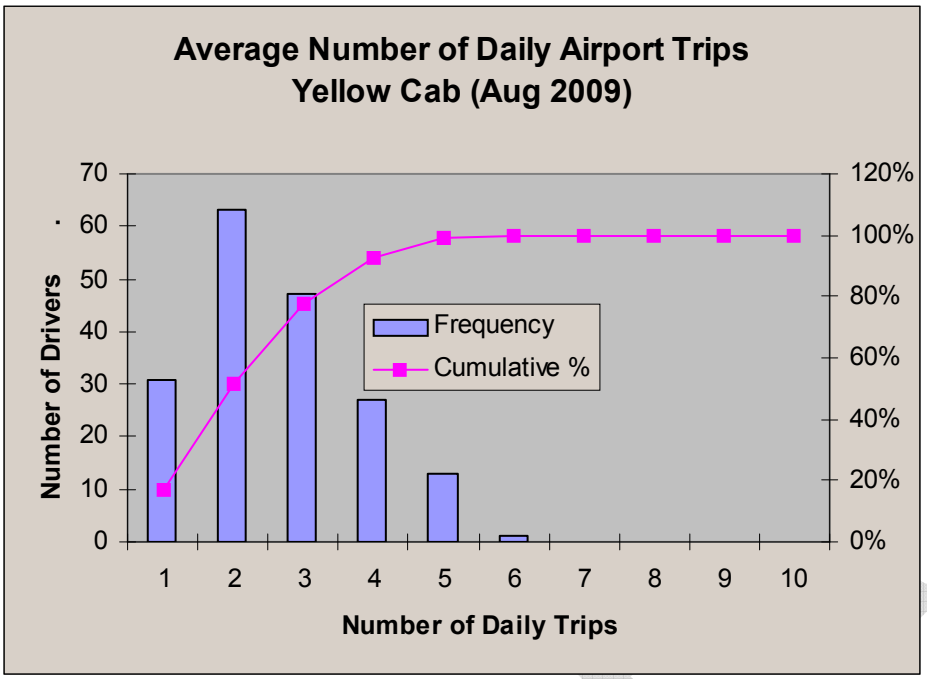

Average Number of Daily Airport Trips
Yellow Cab (Oct 2009)
Number of Drivers
Number of Trips
Frequency
Cumulative %
0
10
20
30
40
50
60
0%
20%
40%
60%
80%
100%
120%
1
2
3
4
5
6
7
8
9
10


Average Number of Daily Airport Trips
All Companies (Aug 2009)
Number of Drivers
160
140
120
100
80
60
40
20
0
120%
100%
80%
60%
40%
20%
0%
Frequency
Cumulative %
1
2
3
4
5
6
7
8
9
10
Number of Daily Trips


Average Number of Daily Airport Trips
A1 Express (Aug 2009)
Number of Drivers
18
16
14
12
10
8
6
4
2
0
120%
100%
80%
60%
40%
20%
0%
Frequency
Cumulative %
1
2
3
4
5
6
7
8
9
10
Number of Daily Trips


Average Number of Daily Airport Trips
AAA Taxi (Aug 2009)
Number of Drivers
Number of Daily Trips
Frequency
Cumulative %
0
1
2
3
4
5
6
7
0%
20%
40%
60%
80%
100%
120%
1
2
3
4
5
6
7
8
9
10

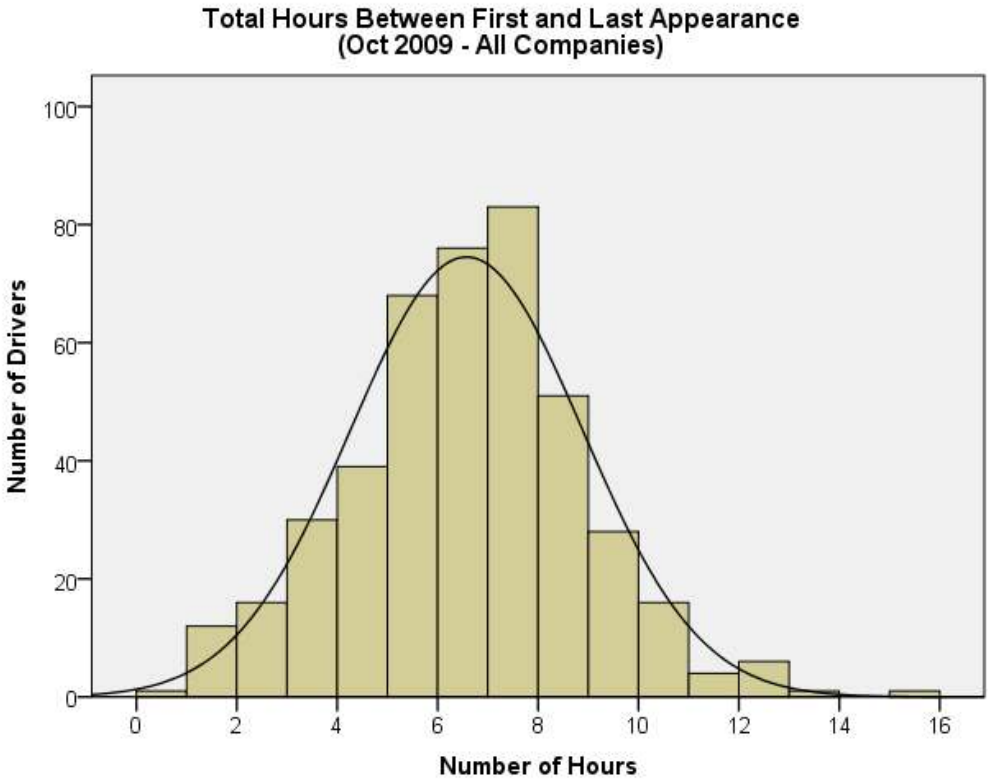

Average Number of Daily Airport Trips
San Antonio Taxis (Aug 2009)
Number of Drivers
Number of Daily Trips
Frequency
Cumulative %
0
10
20
30
40
50
60
70
0%
20%
40%
60%
80%
100%
120%
1
2
3
4
5
6
7
8
9
10

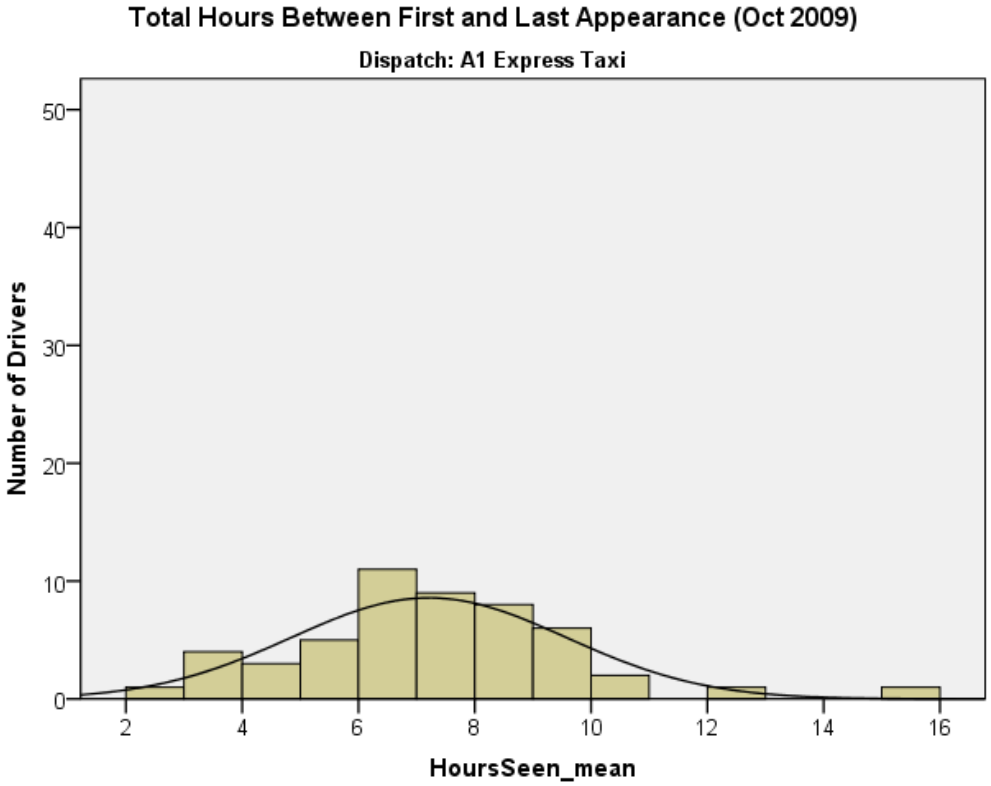


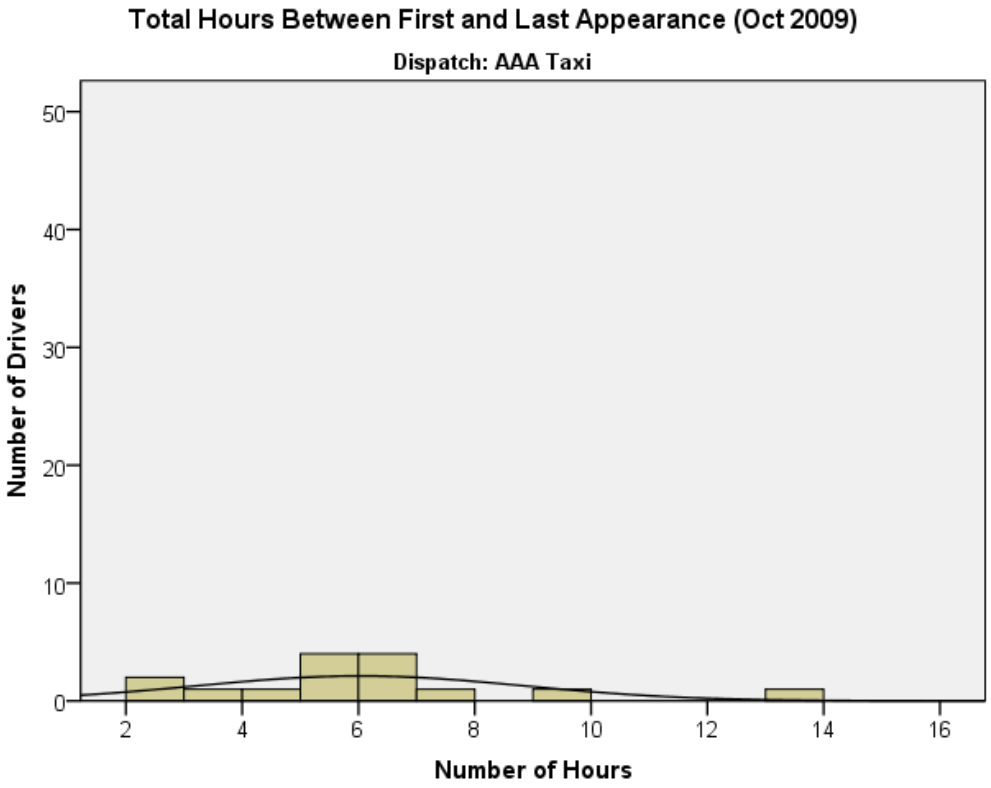
Descriptive Statistics of Hours Worked by EVI Card for All Companies (Oct 2009)

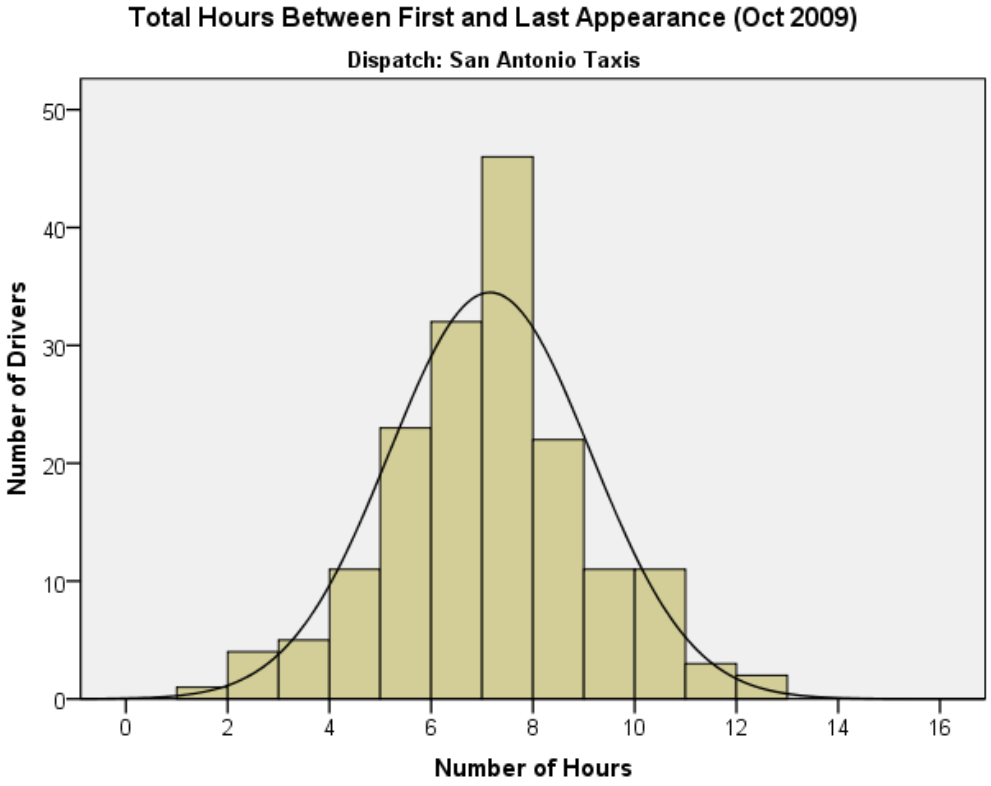
	Range	Minimum	Maximum	Mean	Std. Deviation
Hours Worked	19.42	.00	19.42	6.1797	4.10869

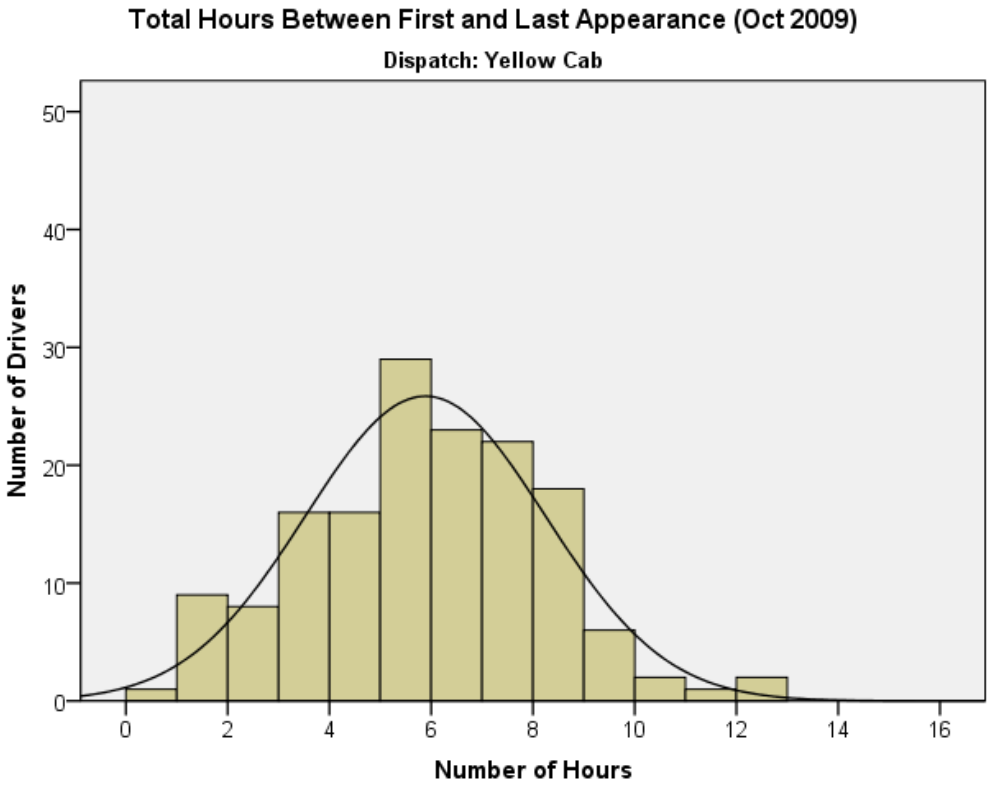
Note:
A minimum of 0 hours is due to days when a driver only picks up at the airport one time.


Total Hours Between First and Last Appearance
(Oct 2009 - All Companies)
Number of Drivers
0
20
40
60
80
100
0
2
4
6
8
10
12
14
16
Number of Hours


Total Hours Between First and Last Appearance (Oct 2009)
Dispatch: A1 Express Taxi
Number of Drivers
0
10
20
30
40
50
2
4
6
8
10
12
14
16
HoursSeen_mean


Total Hours Between First and Last Appearance (Oct 2009)
Dispatch: AAA Taxi
Number of Drivers
0
10
20
30
40
50
2
4
6
8
10
12
14
16
Number of Hours


Total Hours Between First and Last Appearance (Oct 2009)
Dispatch: San Antonio Taxis
Number of Drivers
0
10
20
30
40
50
0
2
4
6
8
10
12
14
16
Number of Hours


Total Hours Between First and Last Appearance (Oct 2009)
Dispatch: Yellow Cab
Number of Drivers
0
10
20
30
40
50
0
2
4
6
8
10
12
14
16
Number of Hours

APPENDIX D
Analysis by Actual Data

Data analysis of taxi customer pickup data can provide insight into several areas, such as the total demand for taxicab service, demand concentration, wait times, trip durations, and the impact of geography and demographics on the service levels. An understanding of these factors helps to determine whether a city or taxi company needs more or fewer vehicles on the road.

Depending on the level and type of data available, one can aggregate the data yearly, seasonally, monthly, daily, and even hourly for each zip code within a service area. The service levels can then be displayed on map to show the contrast between zip codes. In addition, this data can be displayed on a map as a function of average income, population, education level, and other desired demographics.

While many taxi companies use zones in place of zip codes, using customized geocoding software allows the analyst to use either a street address with city/state or latitude/longitude data to find the zip code for each trip at approximately 90% accuracy. Then one can aggregate data by zipcode and then visually represented on maps.

As taxi companies continue to adopt new technologies, opportunities exist to better understand the consumer demand and service levels for both individual companies and regulatory agencies. The following examples show the benefits of using taxi data to understand the performance of a single taxi company or even the entire industry within a city.

Vehicle Use Efficiency

Charts 1 and 2 show distributions of the average number of dispatched trips completed by drivers and vehicles respectively in a single day or shift. Often taxi companies will provide data on dispatched trips but are hesitant to let drivers and others know that their newer taxi technologies also retain all trips undertaken - whether dispatched, picked up at a stand or even a flat fare trip when the taxi meter is utilized to provide a receipt, as in the case of most U.S. cities. The first chart clearly demonstrates that, in this company, the mean number of dispatched trips in a shift is eight to ten trips. As the second chart illustrates, the mean dispatched trips per vehicle

matches that of the drivers. For companies where drivers do not own their vehicle, this would not be an efficient use of the asset.

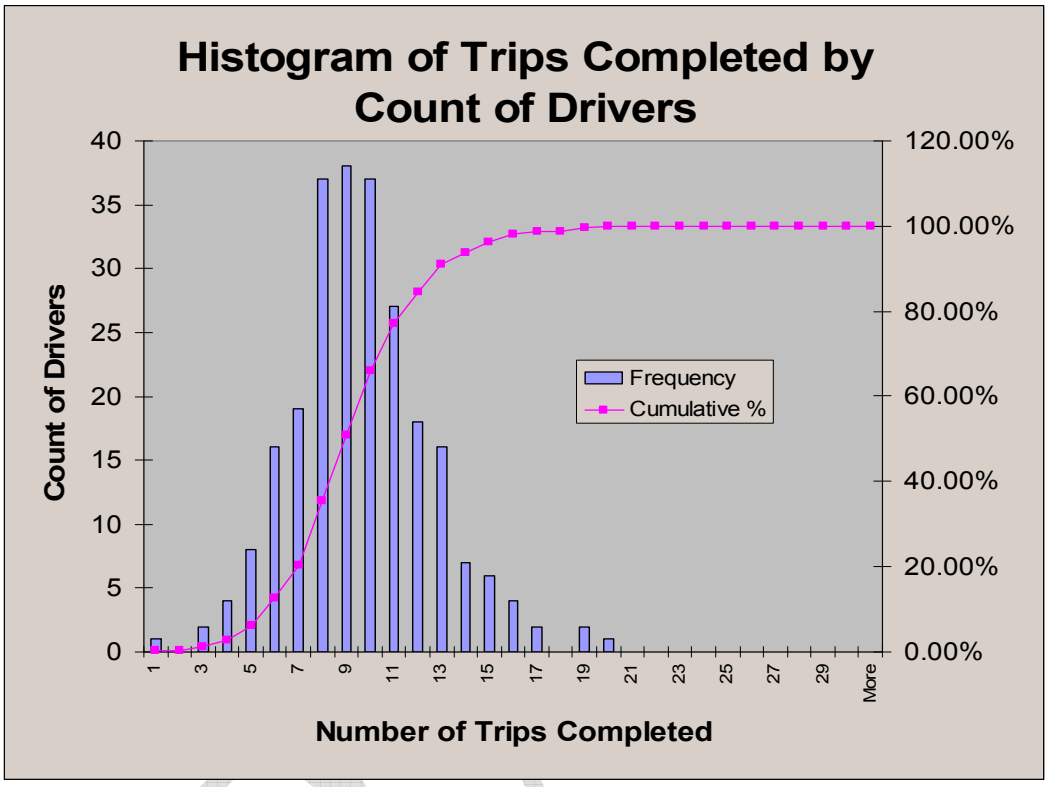


Chart 1 – Distribution of the average number of daily dispatched trips completed per driver

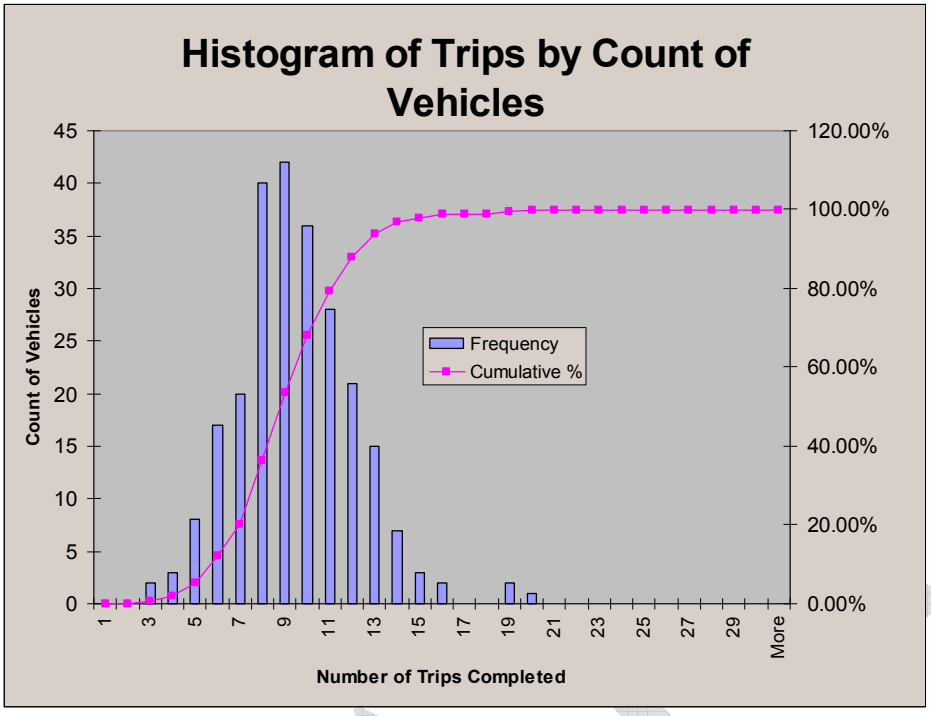


Chart 2 – Distribution of the average number of daily dispatched trips completed per vehicle

Call Completion Analysis

The following table shows an important component of a successful taxicab company. Trip completion is the percentage of all calls that actually resulted in a paid passenger. This can show if a company has an unusually large number of calls being lost possible due to long wait times or taxi drivers not responding to the offer of a fare. This could indicate unmet demand or the unwillingness of some drivers to accept a fare to areas where they do not want to go. The following Table 1 is an example of showing call completion rates from a presentation slide.

Average Trips per Driver in a Day	9.2
Average Trips per Car in a Day	9.1
Average Days Worked per Driver	19.2
Average Calls per Day	2052.4
Average Reported Trips per Day (87.6 % Trip Completion)	1797.9

Table 1 – Summary of data

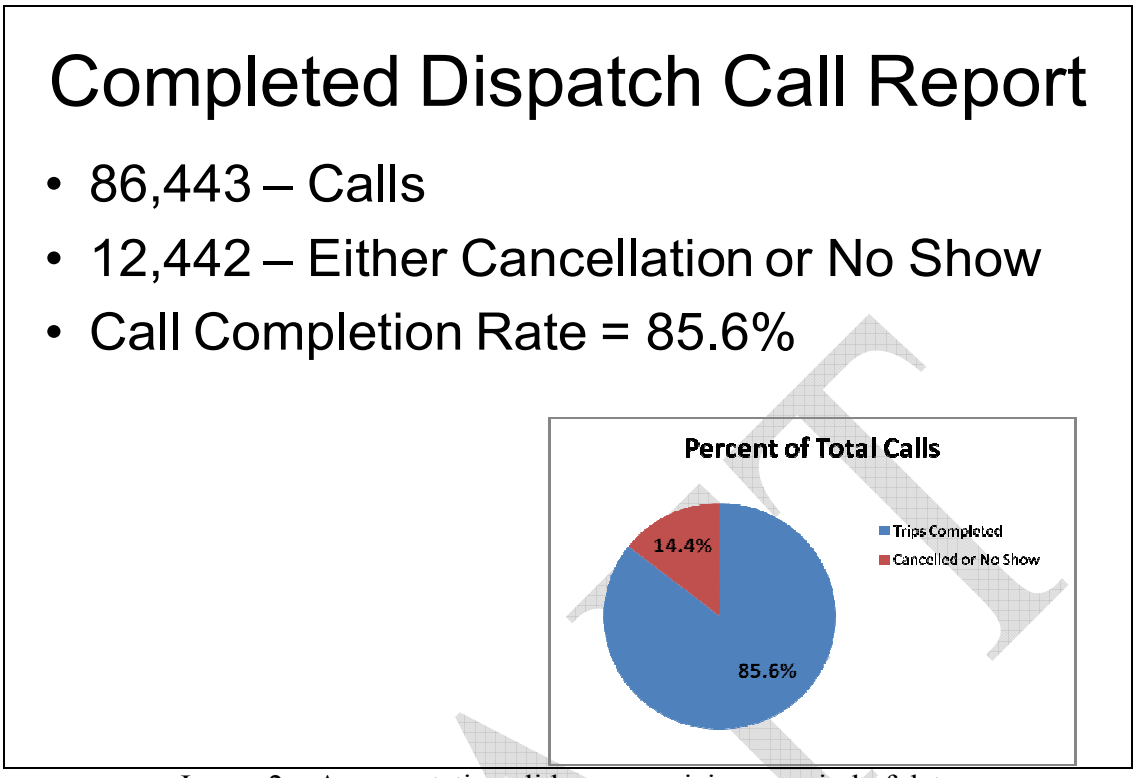


Image 2 – A presentation slide summarizing a period of data

Trip and Wait Durations

Charts 3A and 3B are good examples of how data from a large western U.S. city can determine whether the company is adequately meeting the needs of passengers and whether more taxi permits may be needed. Chart 3A shows a company where approximately 90% of customers experience a wait time of 15 minutes or less. Chart 3B shows another company where only 60% of customers wait 15 minutes or less. In addition, some passengers waited more than an hour.

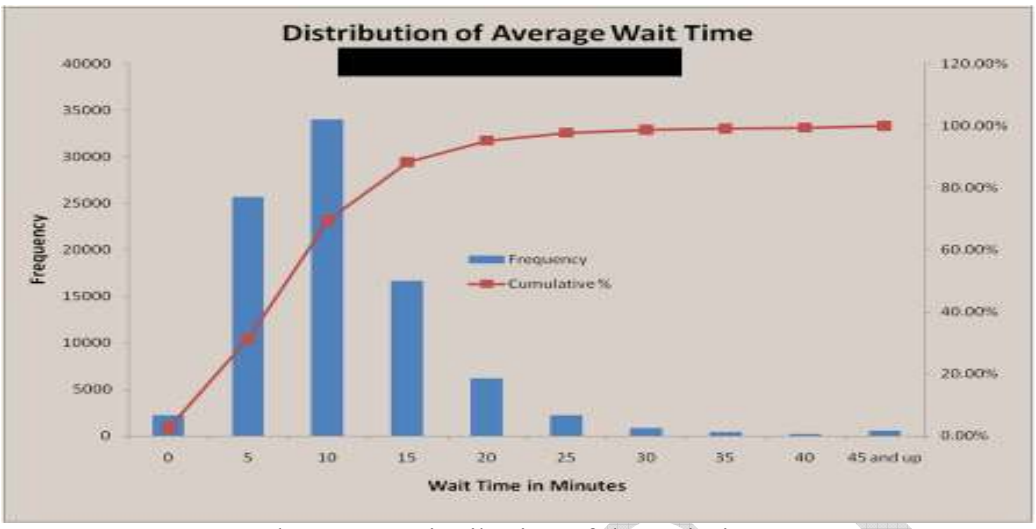


Chart 3A – Distribution of the wait times

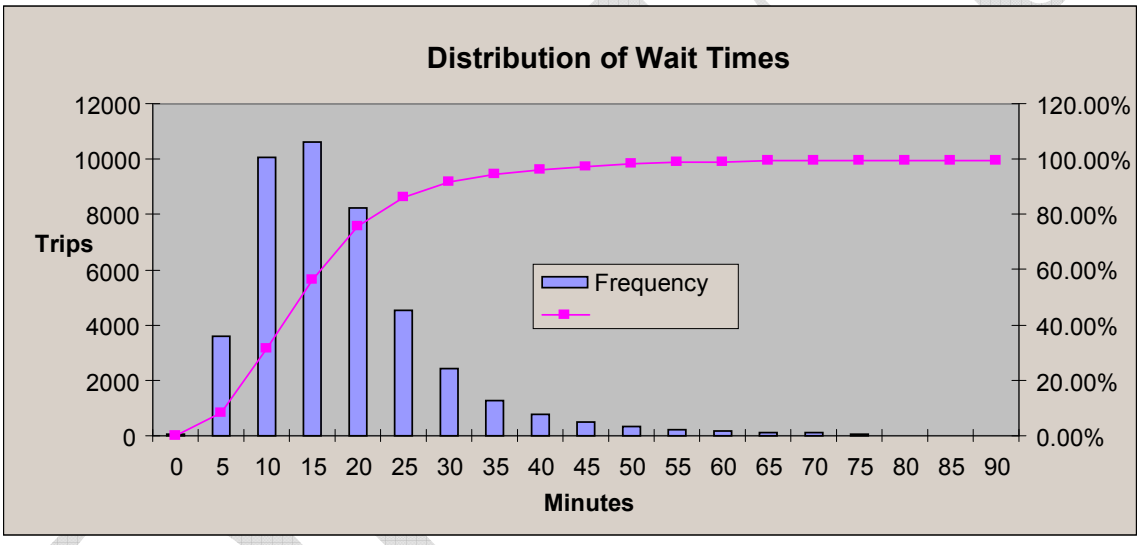


Chart 3B – Shows a distribution of wait times with a larger range of wait times and more permits may be required.

Chart 4 shows the duration of passenger trips. In this case, approximately 60% of the trips were 5 minutes or less. While this may seem extremely unusual, this was a smaller city with a high usage of taxicabs and an unusually efficient taxi dispatch operation.

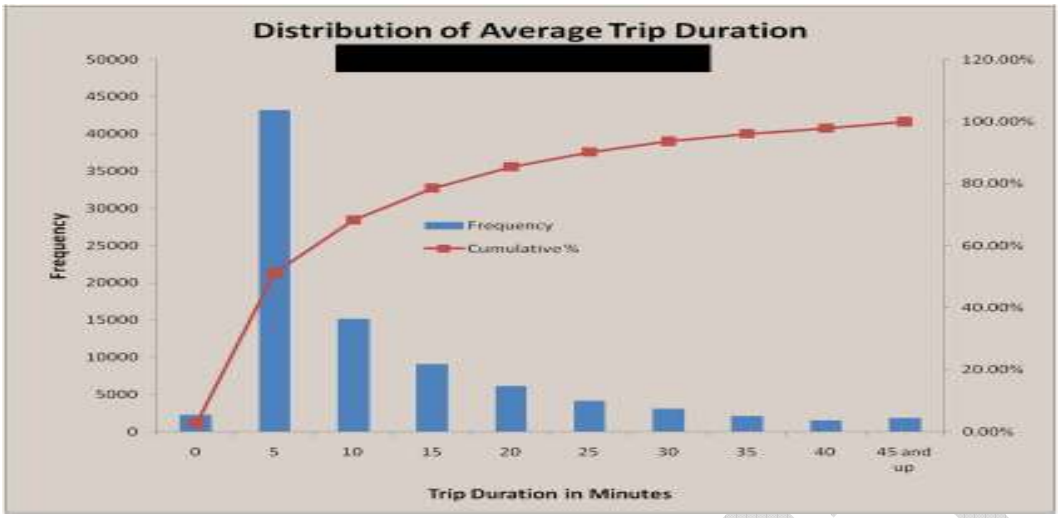
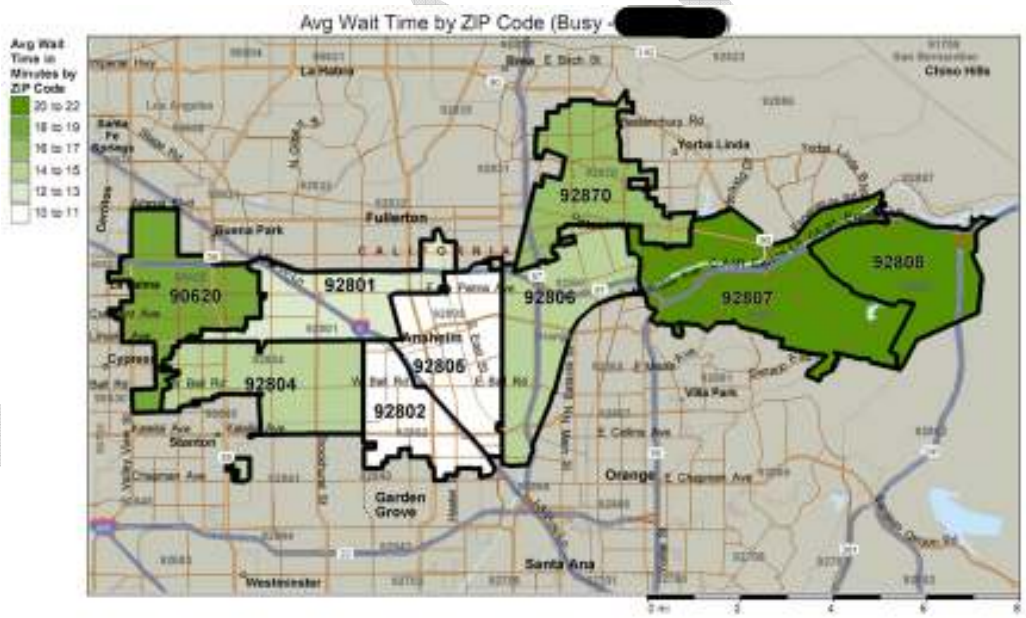


Chart 4 – Distribution of the duration of trip in minutes

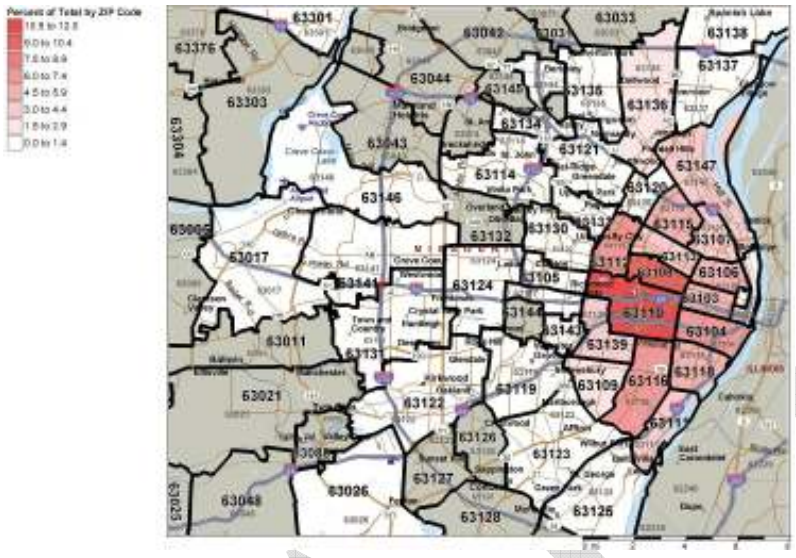
Map 1 illustrates zipcodes that higher average wait times. In this map, clearly there is an apparent correlation between higher wait times and geographic location.



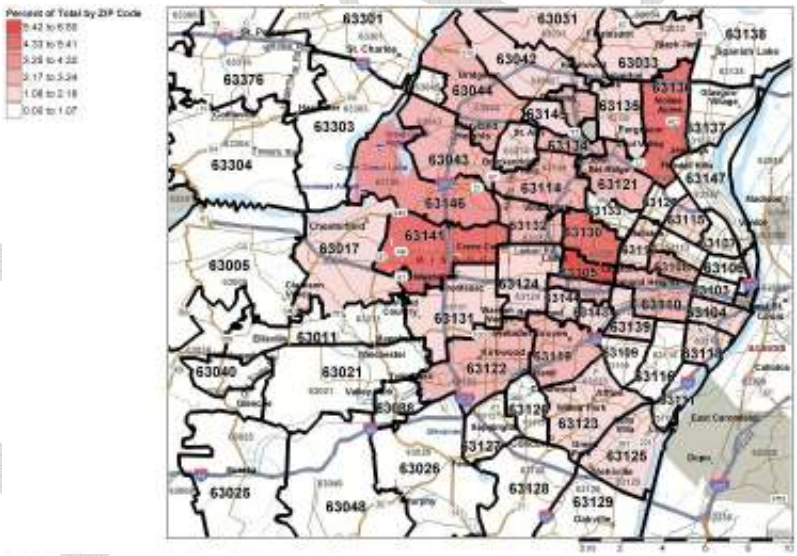
Map 1 – Average wait times per zip code

Concentration of Pickups

Maps 2 and 3 show the concentration of trips by zip code for two different companies. Each zip code is assigned a percentage based on the percent of the total trips that originated from that zip code. As can be seen, these two companies have significantly different primary service areas.



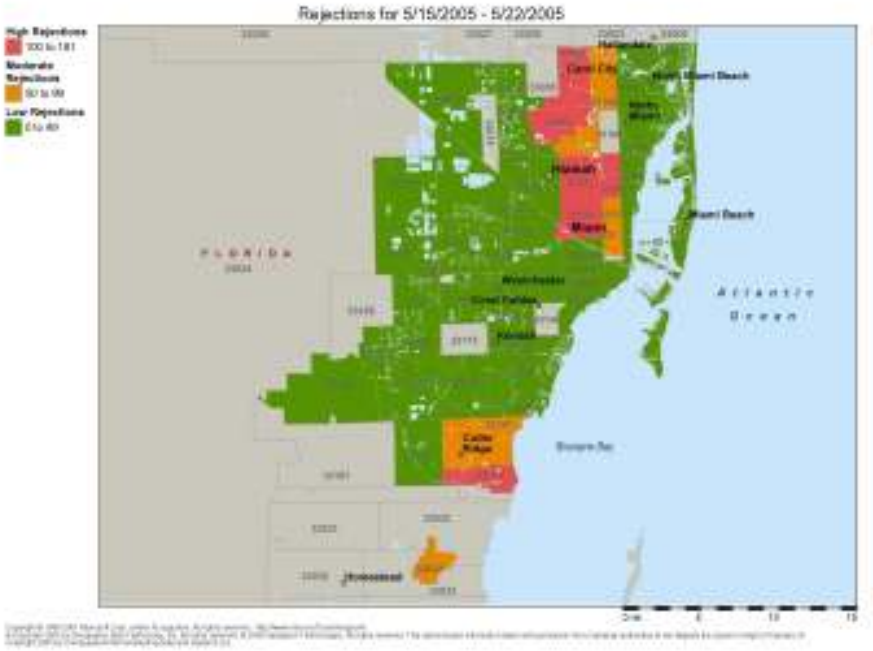
Map 2 – Company A trips



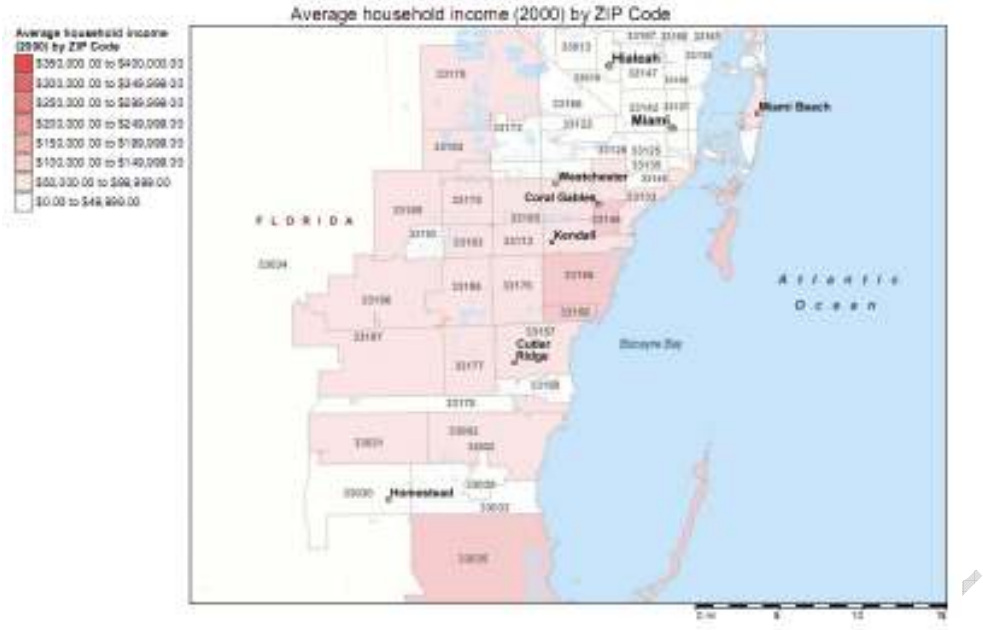
Map 3 – Company B trips

Demographic Effect

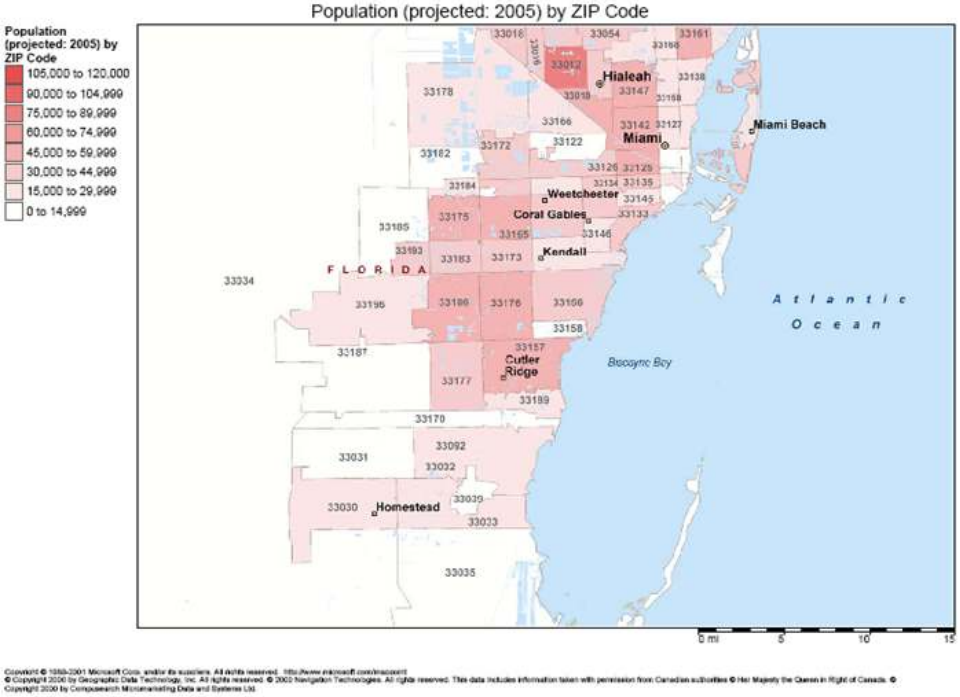
The last three maps show how a high number of incomplete trips might or might not be related to demographics. The first map (Map 4) shows three groups of rejections. The second map (Map 5) displays the 2000 average household income by zip code. The last map (Map 6) presents the population as projected for 2005. A comparison shows there is a potential relationship between the high rejections and lower income areas. It also shows that there is not necessarily direct relationship between high rejections and population concentration.



Map 4 – Number of rejections per zip code.



Map 5 – Average household income in 2000



Map 6 – Projected 2005 population

APPENDIX E
Modern Taxi Dispatch Systems

Computerized dispatching systems that automatically route the request for cab service to the closest vehicle as identified by the vehicle's on board GPS device (or to the taxicab that has been in that geographic zone the longest and by operational rule is to receive the next offer for service) are available from many of the current providers of modern taxi dispatch systems.

Management of the individual taxi operator has also been improved by these modern taxi dispatch systems. By continuous tracking of the routes selected by the driver, the computer can red flag any driver that takes a longer route. Some systems will automatically provide turn by turn directions for the driver and flag any trip which is more than one percent (1%) out of specified route. Such electronic records are extremely invaluable in settling any claim by a taxicab user that the driver took the long way thereby inflating the fare.

Without the connectivity of radio/electronic dispatch, a large percentage of taxi operations in North America take place without the benefit of these modern taxi dispatch technologies utilized in the taxi industry to improve efficiency and productivity. These are technologies which have helped other taxi operations to maintain and even regain passenger traffic market share once lost to other competitors.

Foregone is the ability to use GPS technology for closest cab dispatching, electronic processing of credit cards, shortest route directions, immediate dispatch of police to the exact location in the event of an incident, dispatching of accessible vehicles when required, electronic payment of corporate or voucher business, elimination of manual record keeping, and any hope of lowering costs and fares through more efficient operations. Without these new taxi technologies, offered by full service taxi operators selected North American and European cities, taxi operations will forever be an increasing cost industry, perpetually requesting rate increases due to inefficient and largely ineffective operations.

Given the lack of technology currently, taxi operators will be ill-prepared to face competitive challenges and rates will continue to escalate making alternative forms of transportation such as sedans, vans, limos, and even car rentals, more economical to use.

This would require investment in newer available technologies but not an unreasonable investment considering the benefits derived. Additionally, the costs of these new technologies

have dropped dramatically within the past few years while the operational features and reporting capacities have greatly expanded.

For an investment estimated to be between $1000 to $1500 per vehicle, taxis could have electronic meters, GPS tracking and verbal directional driving information, computer dispatching, instant credit card swipe, electronic fare deposits and toll road/airport/seaport fee payments. Taxi drivers and users could have GPS shortest route to destination service, improved personal safety, greater payment flexibility, and accurate productivity per taxi information.

Taxi firms and their drivers could choose to adopt a "pay as you go" method to acquire modern taxi technology; some of these firms offer total packages costing between $50 to $100 per month per vehicle. While this approach may be more expensive over a five-year period, the advantages are that little upfront capital is required since the equipment is leased from the technology firm. Another advantage is that the equipment and software to support such an integrated taxi management system is maintained and upgraded by the technology firm.

An added benefit of such technology would be to make the task of taxi regulation much more informed and relatively easier. Many of these newer technologies provide for electronic capturing of all taxi meter activity so that actual trips dispatched per hour per vehicle, trips per day per vehicle (including personals) as well as geographic area served. Service times and availability of services information would also be available.

There are several firms which offer these types of taxi technologies. A representative sample can be found at the following sites:

www.mobile-knowledge.com

www.digital-dispatch.com

www.TranWare.com

Several of these modern taxi dispatch technologies utilized in North America are discussed more fully below.

Tran Ware

TranWare Products are divided into two product lines: Enterprise and Desktop.

TranWare Enterprise Management Modules are designed for taxi, paratransit (non-emergency medical), shuttle and other localized ground transportation fleets. They are complete, configurable end-to-end management applications that can help you automate your Order Entry,

Scheduling, Dispatching, Driver Cashiering, Customer Billing and Vehicle Maintenance operations. Please review the capabilities of the various modules below and contact us for additional information.

All TranWare Enterprise Systems feature:

Sophisticated Multi-User Network Design
Designed to operate 24 hours a day, 365 days a year
User Programmable Event Logging
Integrated Internal E-Mail System
Complete Staff Security and Programmable Staff Authorization
Multiple Fleet Support
Customizable Reports
Custom Interfacing Capabilities

All systems are designed for Microsoft® Windows® 98, 2000 Professional, XP Professional and Vista Business. Windows 2000/2003 Server, Windows peer-to-peer and Novell® Netware® network systems supported. Review detailed system requirements HERE.

You can view a brief MS PowerPoint® presentation HERE. (approx 1.5MB)

Taxi, Courier, Shuttle & Paratransit Scheduling & Dispatch
Driver Cashiering & Shifting
Account Billing & Receivables
Vehicle Fleet Maintenance
Mobile Data and AVL Systems
Optional Modules and Accessories

For the Limousine and Black Car (premium sedan) Industries, we offer TranWare Desktop featuring WinLimo(tm). The WinLimo product line is fully represented in detail at WinLimo.COM.

Mobile Knowledge

Taxi, Black Car and Limousine

Mobile Knowledge provides turn-key enterprise-wide systems using leading-edge technology to solve the needs of the taxi, black car and limousine industry, improving service through dispatch automation and the speedier exchange of information between drivers and the dispatch center.

The most advanced solution supplier in the transport industry, we understand that you must provide the best possible service to both your passengers and drivers. Only through the proper integration of many and varied technologies, can a taxi system increase the efficiency, reduce costs and improve on passenger and driver satisfaction. Mobile Knowledge offers a unique set of products, skills and services which can help to achieve the goals of livery companies.

With a Mobile Knowledge Solution, the variety and timeliness of service to your passengers are improved. This, in turn, brings in more business making drivers happy while providing them with a safer working environment.

Mobile Knowledge Hardware

Series 2000 Mobile Data Terminal

The Series 2000 MDT allows drivers to input data fast and get back to their main priority - driving the vehicle and getting customers safely to their destinations.

The Series 2000 MDT is an integral part of the Mobile Knowledge family of products and services. Mobile Knowledge is the world leader in GPS-based vehicle location tracking and telematics systems and allows fleet and vehicle owners to increase mobile worker productivity and improve asset utilization.

Series 2008 Mobile Data Terminal

The Series 2008 MDT is the most advanced MDT available on the market. Equipped with a 50 channel GPS receiver and 2 USB ports, drivers can download their trip information to analyze on their home PC with Mobile Knowledge's FarePlay software.

The Series 2008 MDT is an integral part of the Mobile Knowledge family of products and services. Mobile Knowledge is the world leader in GPS-based vehicle location tracking and telematics systems and allows fleet and vehicle owners to increase mobile worker productivity and improve asset utilization.

Series 9006 Mobile Data Terminal

The Series 9006 MDT represents the third generation of rugged, purpose-built, in-vehicle Windows CE terminal available from Mobile Knowledge. The Series 9000 is built upon industry standard components including an Intel XScale processor, and harnesses the power of Microsoft Windows CE.

The Series 9006 MDT features a 5.75" resistive touch screen display, 64 Mb of SDRAM, 64 MB Flash Memory, Integrated Magnetic Card Swipe, Internal 16 Ch., GPS Receiver, Internal Speaker and Microphone, USB, Compact Flash and Secure Digital Card Ports, packaged in a sleek and contoured case.

Series 9008 Mobile Data Terminal

The Series 9008 MDT represents the evolution of our Series 9000 Mobile Data Terminal. Building on the successful Series 9006 MDT, the increased screen size of the Series 9008 has proven very practical for companies integrating mapping with their dispatch operations and interest has come from black car service providers as well as forward looking taxi service operators.

The Series 9008 MDT features an 8" resistive touch screen display, 64 Mb of SDRAM, 64 MB Flash Memory, Integrated Magnetic Card Swipe, Internal 16 Ch., GPS Receiver, Internal Speakers and Microphone, USB, Compact Flash and Secure Digital Card Ports, packaged in a sleek and contoured case.

BSU II

The BSU II is designed to interface state-of-the art dispatch systems to your Base Radio. It is designed for compatibility with a wide variety of mobile applications including taxi, limousine, shuttle, courier and transit.

The BSU II is designed for mobile applications that traditionally use thin data with a high transaction rate. The BSU II outputs message packets over the radio link using the "Slotted

Aloha" synchronous data protocol. The communications system operates in a full duplex mode, with the base unit transmitting a packet every 125 milliseconds. The system provides for error detection, single bit error correction and packet merging between the vehicles and the base unit. Packets which cannot be corrected are identified and retransmitted.

Mobile PIM (Passenger Information Monitor)

The Mobile Knowledge Mobile PIM represents the third generation of rugged, purpose-built, in-vehicle Windows CE terminal available from Mobile Knowledge. The Mobile PIM is based upon industry standard components including an Intel XScale processor, and harnesses the power of Microsoft Windows CE.NET.

The Mobile PIM mobile data terminal (MDT) features advanced processing power and I/O capabilities unparalleled in the industry today. Supported by an Intel XScale processor and a large, easy-to-read color touch display, the Mobile PIM MDT is equipped to handle your advanced mobile data applications today and well into the future.

Digital Dispatch Systems (DDS)

DDS is one of the world's leading taxi dispatch hardware and software companies. It offers a wide variety of products for the taxi industry. As stated in its promotional literature,

> "Digital Dispatch's turnkey enterprise wireless fleet management solution is designed for taxi fleets ranging in fleet size of a hundred to several thousand. This solution includes the PathFinder™, our feature-rich and highly configurable software application optimized for large taxi fleets with functionalities like dynamic and configurable time/area parameters to adjust a comprehensive set of dispatch algorithms; redundant hot standby servers with no single point of hardware or software failure; multi-fleet support; private mobile radio and GPRS roaming; and unlimited scalability. Some of the largest taxi companies in North America, Europe and South East Asia have relied on Digital Dispatch for years."

PathFinder is Digital Dispatch's automated dispatch system for taxi operators of 100 or more vehicles that wish to speed up their order taking and significantly reduce both the workload of taxi call takers and dispatchers, and the number of orders that must be processed by a human telephone operator. Its Automated Calltaker system for example, allows repeat customers which are already in the taxi company's data base to create their own orders utilizing touchtone phones. This is especially helpful for busy receptionists, hotel, and restaurant personnel that have little

time to wait on the phone to speak to a call taker and order a cab. Often several cabs may be needed and the Automatic Calltaker can handle these multiple cab orders just as easily as a single cab order.

PathFinder utilizes a number of hardware and software systems to tie together the mobile radio, GPS, taxi meter, scanner, and printing capabilities within the taxi, electronically to its base PathFinder Servers which can process information from call takers to/from taxis instantly.

DDS software utilizes a number of its Mobile Data Terminals or MDTs with its PathFinder system. These MDTs permit the taxi driver to communicate with their system to receive trip details, process credit cards, and to both speak and text their supervisor should any problems arise.

Similar to other sophisticated taxi dispatch systems that utilize GPS, PathFinder software groups the taxi service area into areas known as taxi zones. These zones are then utilized to keep track of all taxis on a real time basis to determine which taxis are available for service. Depending upon the service rules of the taxi operator, if the software sees that a particular taxi is the closest to the request for service, it sends an electronic message to the screen in that taxi for the driver to either accept or reject. Usually the driver has but a short time to accept or the system automatically shifts the request to the next closest taxi. Alternatively, the system may be set to identify which taxicab has been in zone the longest time awaiting a trip and offer the trip to this taxicab driver first. Finally, there can be a combination of both systems which take into account the distance from the pickup and the time a cab has been waiting by having the computer add a penalty factor to distance from pickup. If there is no taxi in that zone under either rule, then adjacent zones are queried to determine where the closest taxi is or the one that has been waiting the longest.

Another aspect of PathFinder that greatly speeds up the process of call acceptance and increased customer service is the ability of their Callout software to notify the customer about their specific taxi number and, depending upon software setting, alert the customer of the approximate time their cab will arrive for pickup. PathFinder can also provide turn by turn directions to the driver should he/she need directions. It may also be programmed to automatically phone the user with a recorded message that the taxi is arriving and will be available with a prescribed number of minutes thereby minimizing wait time for the taxi and eliminating doubts by the customer that a cab has been dispatched for them.

PathFinder's electronic means of transferring data also prevents the poaching of taxi trips by making it extremely difficult for other drivers to obtain the pick up data. Also the customer is more likely to take a specific cab number which has been told to them rather than one who may be from another company or even a different numbered cab from the same company. This electronic screen may also be viewed as a safety device when compared with the use of a hand held mic or telephone. Mobile Data Terminals today display easy to read data on much larger screens than any cell or handheld phone so information is communicated with significantly less distraction for the driver. In some states, California for example, there are statewide laws which forbid the use of handheld cell phones while driving.

PathFinder's main menu offers a variety of preprogrammed reports that can greatly assist the taxi company management in knowing more about their fleet operations and hence, managing much more effectively. Being tied into DDS's electronic taxi "smart meter", having GPS, and an electronic record of all trips allows taxi company management to know significantly more about their operations. Taxi management today has the ability to obtain all fare information from all cars. They can spot drivers that habitually take a longer route. They can determine which drivers are working their radios, sitting at the airport, or primarily serving only one or a few areas of the city.

Good taxi operators also find the OverBooking Editor feature of PathFinder helpful in managing customer service levels. This feature allows the taxi system manager to set the maximum number of trips their company may accept or schedule in a particular zone, area or system wide. Obviously this permits the taxi company from bookings they have little or no chance of being able to carry out.

PathFinder also provides taxi system managers with the general ability to manage the activities of their drivers with respect to time permitted to drive, record keeping of driver accounts, settling driver credit card accounts, and keeping tack of driver activity and capacity of their system. The system manager can run reports which indicated the trips per day, week, and month; by driver, by zone; by hour and day, etc., or just about anyway one wants in order to obtain summary statistics that may help in running the operation, setting driver lease rates, providing accurate detailed trip and financial data to third party payers, or reporting activities to regulatory authorities.

PathFinder permits management to specifically oversee the individual actions of their drivers and customer service on a daily basis. By utilization of GPS mileage, call takers can more accurately inform customers of the approximate cost of their taxi trip. The computer also keeps track of routes taken and may be set to flag trips that are considered out of route trips by individual drivers. Depending upon the parameters set by the system management, the computer stores this information for a period of time so issues of lost articles can be traced back to the individual cab and driver.

Driver actions can also be electronically monitored by having the computer flag quick meter turn on and off for a specific pickup, which might indicate that the drivers to run service "off the meter". Alternatively, the computer can spot circumstances where a meter is left on for a preprogrammed trip. Finally, PathFinder storage of all trips for a period of time can assist police officials if a crime has been committed and a taxi was utilized as a means of leaving the area. Records of individuals leaving a residence or restaurant/bar and their destinations for example are a matter of record for PathFinder.

Finally, PathFinder software modules permit taxi companies that have a need to share ride or group ride individuals to do so with PathFinder designing the optimum route, fare calculations, invoicing of client(s), and payment of driver if desired. This system is also capable of doing the same for additional transportation offerings a taxi operator may want to have as additional business units. Sedan, limousine, bus, or shared ride van operations to name only a few of the different service options PathFinder and other modern full service taxi dispatch systems are capable of handling.

For smaller taxi firms that may operate in smaller communities or those not able to afford the complete suite of hardware and software offered by DDS's PathFinder system for larger users, DDS offers internet bookings through it TaxiBook software.

According to their promotional literature, DDS TaxiBook is:

> "Designed for taxi companies whose economies of scale do not justify the use of a full scale the enterprise solution, Digital Dispatch's internet taxi dispatch service, TaxiBook™, is offered as a bundled package. This offering is a subscription-based monthly service that addresses the needs of smaller taxi companies which comprises a substantial yet relatively under-served market. TaxiBook™ service includes dispatch functionalities, airtime for data communications, in-vehicle mobile data computer, automatic vehicle location and electronic payment. Taxi companies can access the system's server computers

> from anywhere in the world using a PC with broadband Internet connection and a web browser."

Using this "pay as you go" system provides many of the same capabilities of their more sophisticated system described above but offers the smaller taxi operator the opportunity to pay for the system as it is utilized.

Taxi fare payment systems are also changing as a result of these advanced hardware and software solutions are being added by taxi companies. Many taxi users today want to pay for their transportation service by credit card and receive receipts for reimbursement by their companies or for their personal business expenditures records. Credit card acceptance has been gaining in popularity and many North American taxi regulators are adding acceptance of these cards as a mandatory service offering of the taxi firms they regulate.

However, accepting credit cards and processing them quickly and efficiently are completely different things. If a taxi firm is small and is using a completely outdated open channel radio system, or an independent owner-driver is using his cell phone as his dispatch system, having a taxi driver read out your personal credit card number and pin over an open radio channel or a cell phone, as was the practice by some when credit cards were mandated, is not a pleasant passenger experience. Even the current practice by many North American taxi companies of using the old "knuckle buster" portable credit card slide machine, is tedious and time consuming when the driver must dial or phone in your credit card over a somewhat private channel.

Here again, taxi technology, far ahead of standard practice in North America, is coming to the rescue with devices that provide quick electronic checking of credit cards and also print a receipt for the taxi fare. DDS's SmartPay is one of these systems.

> "DDS through it use of DDS SmartPay offers all users of their systems to process customer credit and debit cards for trips using Interac Debit Cards. This mobile card swipe terminal offers both quick processing of accurate credit card information, credit availability, and printing of customer receipt. This system can also summarize credit/debit card information and send invoices to commercial or social service users of the taxicab system."

And, firms like DDS do not intend to stop advancing their payment options for the customer. As depicted in the firm's latest promotional release,

> "A current addition to this (SmartPay) capability is the extension of its use to mobile media usage or cell phone payment for taxi services. Cell phone users can pay their taxi fare online and receive both an electronic and immediate paper receipt if desired."

Thus, the businessman or woman who travels a great deal will no longer have to keep detailed receipts and business records of taxi, sedan, towncar, or limousine expenses. They will be electronically transmitted and if he or she has personal software, grouped with regular business expenses.